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# F571: APPLIED FOREST ECOLOGY

## INSTRUCTOR INFORMATION

Instructor: Kristen Switzer

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Communication Policy: Responses to emails will be provided within 24 hours if emails are sent during regular business hours. Office hours are by appointment only.

## PREREQUISITES FOR COURSE

Successful admission to the Master of Natural Resources Stewardship (MNRS) program at Colorado State University, or the Graduate Certificate in Advanced Silviculture for the Practicing Forester Graduate (or with override from the instructor).

## COURSE DESCRIPTION & OBJECTIVES

Concepts and theory of stand dynamics in relation to advanced ecological concepts within temperate systems. This course applies these concepts to resource management with consideration for impacts of natural disturbances and climate change.

Upon the completion of this course, students will be able to:

- Explain factors that result in variability in forest conditions over space and time.
- Compare ecological processes that produce various spatial patterns of trees within stands and forest types across landscapes.
- Assess and compare abiotic and biotic factors that influence forest growth, productivity, and competition.
- Synthesize scientific information about wildlife habitat principles for a specific species and outline best forest management practices to meet habitat objectives.
- Describe the causes and consequences of ecological disturbances, the mechanisms by which ecosystems recover from disturbances, and how biological legacies affect ecosystem resilience.
- Evaluate past and present data on climate change and how that may impact future forest ecosystems and management decisions.
- Describe how concepts of ecological restoration can inform forest restoration in an era of climate change.
- Explain conceptual models of forest stand development and illustrate how stand development informs management choices and how management choices influence stand development.

## TEXTBOOK / COURSE READINGS

No texts are required for this course. The text “Ecological Silviculture” by Palik et al. (2021) will be utilized for course content, but is not required for students to purchase. All other readings will be provided to students in PDF and Word Document formats to best suit your needs.

## COURSE MATERIALS & EQUIPMENT

Access to a computer and internet will be necessary to complete the course. No additional course materials or software are required.

## CSU LAND ACKNOWLEDGMENT

Colorado State University acknowledges, with respect, that the land we are on today is the traditional and ancestral homelands of the Arapaho, Cheyenne, and Ute Nations and peoples. This was also a site of trade, gathering, and healing for numerous other Native tribes. We recognize the Indigenous peoples as original stewards of this land and all the relatives within it. As these words of acknowledgment are spoken and heard, the ties Nations have to their traditional homelands are renewed and reaffirmed.

CSU is founded as a land-grant institution, and we accept that our mission must encompass access to education and inclusion. And, significantly, that our founding came at a dire cost to Native Nations and peoples whose land this University was built upon. This acknowledgment is the education and inclusion we must practice in recognizing our institutional history, responsibility, and commitment.

<https://landacknowledgment.colostate.edu/>

## THIS IS AN INCLUSIVE CLASSROOM

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students’ learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful and inclusive of: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

## COURSE POLICIES

### Course Norms

In your communications/interactions with other students and instructors in the course, please adhere to the following Course Norms:

- Be respectful of others.
- Give yourself grace when making mistakes and learning.
- Make an effort to understand different perspectives.
- Use inclusive language.
- Honor each person's personal pronouns.
- Listen actively before responding.
- Speak from your own experience.
- Ask questions for clarification.
- Ask for help when you need it.

### Late Work Policy

Assignments not handed in on time (through Canvas) will be deducted 10% for each day the assignment is late. If you need an extension due to a work responsibility or some other type of excused absence, it is your job to communicate with the professor to determine how you will turn in assignments following your return from the excused absence. Excused extensions for assignments need to be discussed with the professor prior to their due date unless there are extenuating circumstances which mitigate this requirement.

### Grades of "Incomplete"

Per university policy, an instructor may assign temporary grade of "Incomplete" to a student who demonstrates that he or she could not complete the requirements of the course due to circumstances beyond the student's control and not reasonably foreseeable. A student must be passing a course at the time that an Incomplete is requested unless the instructor determines that there are extenuating circumstances to assign an Incomplete to a student who is not passing the course. When an instructor assigns an Incomplete, he or she shall specify in writing using the Department Incomplete Grade Form the requirements the student shall fulfill to complete the course as well as the reasons for granting an Incomplete when the student is not passing the course. The instructor shall retain a copy of this statement in his or her grade records and provide copies to the student and the department head or his or her designee.

(Section I.6 of the Academic Faculty and Administrative Professional Manual). For more information: <https://registrar.colostate.edu/incomplete-grades/>

#### Citing Sources in Assignments:

The [CSU Writing Center](#) has a range of resources to help you cite your sources correctly. I'm giving you some links below that I think are useful, but there are many other guides and suggestions on this website that will likely be helpful to you. If you have a question about citing sources, make sure to first visit the writing center website but then come ask me if their guides/examples don't make sense. When you are working on an assignment make sure to use this resource so you can ensure that you cite your sources correctly. Generally in scientific writing, we use APA format for sources, and have a References list at the end of the assignment along with in-text citations within the writing.

- 1) General writing guide that explains plagiarism and different citations styles

<http://writing.colostate.edu/guides/index.cfm?categoryid=11&title=2>

- 2) Specific guide to citations that we will use for this class. We will use the Council of Science Editors style for citations. You can find a guide and examples for how to cite here:

<https://writing.colostate.edu/guides/guide.cfm?guideid=13>

#### GRADING POLICY

| Grade | Range             |
|-------|-------------------|
| A+    | 100% to 96.67%    |
| A     | <96.67% to 93.33% |
| A-    | <93.33% to 90.0%  |
| B+    | <90.0% to 86.67%  |
| B     | <86.67% to 83.33% |
| B-    | <83.33% to 80.0%  |
| C+    | <80.0% to 76.67%  |
| C     | <76.67% to 70.0%  |
| D     | <70.0% to 60.0%   |
| F     | <60.0% to 0.0%    |

As a student enrolled in this course, one of your responsibilities is to submit course work by the due dates listed in Canvas. As the instructor, it is my commitment to you to respond individually

to the work you submit in this class and to return your work in a timely manner. Smaller, weekly assignments will be returned within 1 week, and major assignments, exams, and essays will be returned within 2 weeks. (If, however, due to unforeseeable circumstances, the grading of your work takes longer than the times I have listed here, I will keep you informed of my progress and make every effort to return your work with feedback as soon as I can.)

| ASSIGNMENT                                                                                                                                                                                        | GRADE POINTS | GRADE PERCENTAGE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|
| Weekly Assignments (20 points each)                                                                                                                                                               | 140          | 40%              |
| Discussions (10 points each)                                                                                                                                                                      | 50           | 14%              |
| Climate Bites (5 points each)                                                                                                                                                                     | 65           | 19%              |
| Mid-Semester Course Feedback                                                                                                                                                                      | 5            | 1%               |
| Final Natural Disturbance Report<br>Annotated Bibliography (15 points)<br>Draft Sections 1-3 (20 points)<br>Draft Sections 4-5 (15 points)<br>Peer Review (10 points)<br>Final Report (30 points) | 90           | 26%              |
| <b>Total:</b>                                                                                                                                                                                     | <b>350</b>   | <b>100 %</b>     |

## CANVAS INFORMATION & TECHNICAL SUPPORT

Canvas is the where course content, grades, and communication will reside for this course.

- [Login for Canvas](#)
- [Canvas Support](#)
- For passwords or any other computer-related technical support, contact the [Central IT Technical Support Help Desk](#).
  - (970) 491-7276
  - [help@colostate.edu](mailto:help@colostate.edu)

The [Technical Requirements](#) page identifies the browsers, operating systems, and plugins that work best with Canvas. If you are new to Canvas quickly review [the Canvas Student Orientation](#) materials.

## ACADEMIC INTEGRITY & CSU HONOR PLEDGE

This course will adhere to the CSU [Academic Integrity/Misconduct](#) policy as found in the General Catalog and the [Student Conduct Code](#).

Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, I will ask that you affirm the CSU Honor Pledge as part of completing your work in this course.

Further information about Academic Integrity is available at CSU's [Academic Integrity - Student Resources](#).

## UNIVERSAL DESIGN FOR LEARNING/ACCOMMODATION OF NEEDS

I am committed to the principle of universal learning. This means that our classroom, our virtual spaces, our practices, and our interactions be as inclusive as possible. Mutual respect, civility, and the ability to listen and observe others carefully are crucial to universal learning.

If you are a student who will need accommodations in this class, please contact me to discuss your individual needs. Any accommodation must be discussed in a timely manner. A verifying memo from [The Student Disability Center](#) may be required before any accommodation is provided.

The Student Disability Center (SDC) has the authority to verify and confirm the eligibility of students with disabilities for the majority of accommodations. While some accommodations may be provided by other departments, a student is not automatically eligible for those accommodations unless their disability can be verified and the need for the accommodation confirmed, either through SDC or through acceptable means defined by the particular department. Faculty and staff may consult with the SDC staff whenever there is doubt as to the appropriateness of an accommodative request by a student with a disability.

The goal of SDC is to normalize disability as part of the culture of diversity at Colorado State University. The characteristic of having a disability simply provides the basis of the support that is available to students. The goal is to ensure students with disabilities have the opportunity to be as successful as they have the capability to be.

Support and services are offered to student with functional limitations due to visual, hearing, learning, or mobility disabilities as well as to students who have specific physical or mental health conditions due to epilepsy, diabetes, asthma, AIDS, psychiatric diagnoses, etc. Students who are temporarily disabled are also eligible for support and assistance.

Any student who is enrolled at CSU, and who self-identifies with SDC as having a disability, is eligible for support from SDC. Specific accommodations are determined individually for each

student and must be supported by appropriate documentation and/or evaluation of needs consistent with a particular type of disability. SDC reserves the right to ask for any appropriate documentation of disability in order to determine a student's eligibility for accommodations as well as in support for specific accommodative requests. The accommodative process begins once a student meets with an accommodations specialist in the SDC.

### THIRD-PARTY TOOLS/PRIVACY

Please note that this course may require you to use third-party tools (tools outside of the Canvas learning management system), such as Skype and others. Some of these tools may collect and share information about their users. Because your privacy is important, you are encouraged to consult the privacy policies for any third-party tools in this course so that you are aware of how your personal information is collected, used and shared.

### UNDOCUMENTED STUDENT SUPPORT

Any CSU student who faces challenges or hardships due to their legal status in the United States and believes that it may impact their academic performance in this course is encouraged to visit [Student Support Services for Undocumented, DACA & ASSET](#) for resources and support. Additionally, only if you feel comfortable, please notify your professor so they may pass along any additional resources they may possess.

### TITLE IX/INTERPERSONAL VIOLENCE

For the full statement regarding role and responsibilities about reporting harassment, sexual harassment, sexual misconduct, domestic violence, dating violence, stalking, and the retaliation policy please go to: [CSU Policy: Title IX Sexual Harrasment.](#)

If you feel that your rights have been compromised at CSU, several resources are available to assist:

- Student Resolution Center, 200 Lory Student Center, 491-7165
- Office of Equal Opportunity, 101 Student Services, 491-5836

A note about interpersonal violence: If you or someone you know has experienced sexual assault, relationship violence and/or stalking, know that you are not alone. As instructors, we are required by law to notify university officials about disclosures related to interpersonal violence. Confidential victim advocates are available 24 hours a day, 365 days a year to provide support related to the emotional, physical, physiological and legal aftermath of interpersonal violence. Contact the Victim Assistance Team at: 970-492-4242.

## RELIGIOUS OBSERVANCES

CSU does not discriminate on the basis of religion. Reasonable accommodation should be made to allow individuals to observe their established religious holidays. Students seeking an exemption from attending class or completing assigned course work for a religious holiday will need to fill out the [Religious Accommodation Request Form](#) and turn it in to the Division of Student Affairs, located on the second level of the Administration building.

Once turned in, the Division of Student Affairs will review the request and contact the student accordingly. If approved, the student will receive a memo from the Dean of Students to give to their professor or course instructor.

Students are asked to turn in the request forms as soon as the conflict is noticed. Similarly, unanticipated conflicts requiring a religious observance, such as a death in the family, can also be reviewed.

## CSU PRINCIPLES OF COMMUNITY

**Inclusion:** We create and nurture inclusive environments and welcome, value and affirm all members of our community, including their various identities, skills, ideas, talents and contributions.

**Integrity:** We are accountable for our actions and will act ethically and honestly in all our interactions.

**Respect:** We honor the inherent dignity of all people within an environment where we are committed to freedom of expression, critical discourse, and the advancement of knowledge.

**Service:** We are responsible, individually and collectively, to give of our time, talents, and resources to promote the well-being of each other and the development of our local, regional, and global communities.

**Social Justice:** We have the right to be treated and the responsibility to treat others with fairness and equity, the duty to challenge prejudice, and to uphold the laws, policies and procedures that promote justice in all respects.

## INCLUSIVE EXCELLENCE

The [About webpage of the CSU Office of Inclusive Excellence](#) includes a comprehensive statement of CSU's commitment to inclusion.

## COURSE SCHEDULE

Each Module has a recommended start date on a Monday, and all lectures, readings and assignments are due by the following Sunday at 11:59 PM in your local time.

| Module Number                                    | Start Date | End Date                                        | Assignments (Due 11:59 PM on each Module's End Date)                         |
|--------------------------------------------------|------------|-------------------------------------------------|------------------------------------------------------------------------------|
| 1: Introduction to Forest Ecology                | 8/24/2026  | 8/30/2026                                       | Forest Visit<br>Climate Bite 1                                               |
| 2: Silvics and Life History                      | 8/31/2026  | 9/7/2026<br>(extended to accommodate Labor Day) | Silvics Assignment<br>Climate Bite 2                                         |
| 3: Forest Types Across Space and Time            | 9/8/2026   | 9/13/2026                                       | Data Summary<br>Climate Bite 3                                               |
| 4: Landscape Ecology                             | 9/14/2026  | 9/20/2026                                       | Forest Fragmentation<br>Climate Bite 4                                       |
| 5: Biotic Factors – Understory Plant Communities | 9/21/2026  | 9/27/2026                                       | Meta-Analyses<br>Climate Bite 5                                              |
| 6: Wildlife Habitat                              | 9/28/2026  | 10/4/2026                                       | Discussion Post<br>Course Feedback<br>Climate Bite 6                         |
| 7: Abiotic Factors – Soils                       | 10/5/2026  | 10/11/2026                                      | Web Soil Survey<br>Climate Bite 7                                            |
| 8: Abiotic Factors – Water                       | 10/12/2026 | 10/18/2026                                      | Discussion Post<br>Climate Bite 8                                            |
| 9: Natural Disturbances                          | 10/19/2026 | 10/25/2026                                      | Discussion Post<br>Climate Bite 9                                            |
| 10: Natural Disturbance Reports                  | 10/26/2026 | 11/1/2026                                       | Annotated Bibliography<br>Climate Bite 10                                    |
| 11: Carbon Cycling and Stand Development         | 11/2/2026  | 11/8/2026                                       | Discussion Post<br>Draft Sections 1-3 of Final Report<br>Climate Bite 11     |
| 12: Climate Change                               | 11/9/2026  | 11/15/2026                                      | Climate Data Online<br>Draft Sections 4-5 of Final Report<br>Climate Bite 12 |
| 13: Ecological Restoration                       | 11/16/2026 | 11/22/2026                                      | Discussion Post<br>Peer Reviews of Reports<br>Climate Bite 13                |
| Week of Thanksgiving!                            | 11/23/2026 | 11/29/2026                                      | No work due                                                                  |
| 14: Final Natural Disturbance Reports            | 11/30/2026 | 12/17/2026<br>(THURSDAY during finals week)     | Final Report, final date to submit late assignments                          |