



COURSE SYLLABUS

Department of Forest and Rangeland Stewardship
Warner College of Natural Resources

COURSE SYLLABUS

	Instructor	Course
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Course Overview

Climate Adaptive Forest Management is a component of the Online Graduate Certificate in Advanced Silviculture for the Practicing Forester. In this course, we will apply climate science and adaptive silviculture strategies to real-world forest management scenarios. This course will help foster your skills in evaluating and applying climate adaptation principles within a forest management context and communicating a range of climate change impacts and adaptation responses with diverse audiences.

Course Community Guidelines

- Be present, open, honest, and authentic.
- Bring an attitude and willingness to learn about yourself and your peers.
- Respect and maintain confidentiality – What’s shared here, stays here. What’s learned here, leaves here.
- Trust that dialogue will bring us to deeper levels of understanding and acceptance.
- Take risks: Lean into discomfort. Be brave: Find your learning edges.
- Assume good intent.
- Speak from personal experience: Use “I” statements to share thoughts & feelings in discussions.
- Listen actively and respectfully.
- Share airtime: Encourage others’ participation.

Course Goals and Outcomes

Upon completion of this course, students will be able to...

1. Synthesize and articulate potential climate change impacts to regional forest ecosystems across a range of plausible futures.
2. Evaluate and apply climate adaptation principles within a forest management context.
3. Describe tree species distributions and the importance of genetics in species selection in the context of a changing climate.
4. Articulate climate-adaptation options for forest carbon sequestration.
5. Interpret models of potential regional climate change impacts and design management actions to address predicted risks to forest ecosystems.
6. Accurately communicate climate change impacts and potential adaptation responses with private landowners and other diverse audiences.

Course Prerequisites

Admission to the Online Graduate Certificate in Advanced Silviculture for the Practicing Forester.

Required Texts and Materials

We will have required readings that will typically be posted on Canvas. There will be exceptions where students are expected to find the resources online. Further, there are a number of videos which will either be posted to Canvas or are linked in the descriptions.

Supplementary (Optional) Texts and Materials

There are substantial supplementary texts and videos available in each module. These are intended to help reinforce ideas and provide additional context to the core ideas presented. As the name suggests these are supplemental in that they are not required reading but will certainly be worth the time investment.

Canvas Information and Technical Support

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

- Login: canvas.colostate.edu
- Support: info.canvas.colostate.edu
- For passwords or any other computer-related technical support, contact the Central IT Technical Support Help Desk.
 - (970) 491-7276
 - 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.

Library & Research Help

The CSU Libraries Help Desk provides research and technical assistance either in person at Morgan Library or by phone at 970-491-1841. Jocelyn Boice is the librarian supporting this course. Contact her by email at jocelyn.boice@colostate.edu or by phone at 970-491-3882 to ask questions or set up an appointment for in-depth research help.

Information to Remember

Important dates and common questions concerning CSU Online courses can be found at the following address: <https://www.online.colostate.edu/faqs/> for information concerning policies, important dates, financial aid questions and tuition as well as other concerns. That being said, here are some rather important dates:

- Registration Closes: September 9, 2020
- Course Drop/Withdrawal Deadline (100% tuition refunded): September 10, 2020
- Course Drop/Withdrawal Deadline (50% tuition refunded with 'W' grade): October 22, 2020
- Fall Recess: November 23 - 27, 2020
- Withdrawal Deadline: December 11, 2020

Course Schedule

Each module has a series of assignments that are due at the completion of that module. These typically include participating in discussions and other assignments that are listed in each module found on the Canvas page. A brief summary and weekly breakdown of the modules follows. See each canvas module page for assignment due dates.

Modules

Module 1: Introduction to Climate Change Science

Module 2: Climate Change Modelling

Module 3: Climate Change Effects on Forests

Module 4: Regional & Local Climate Change Impacts (Vulnerability)

Module 5: Communicating Climate Change Impacts to Diverse Audiences

Module 6: Peer Feedback on Climate Change Impacts Presentations (Review Management Goals & Objectives)

Module 7: Adaptation & Mitigation

Module 8: Climate Adaptive Forest Management Principles

Module 9: Forest Carbon Management

Module 10: Bioclimate Models & Tree Species Genetics

Module 11: Species Selection Assignment

Module 12: Monitoring

Module 13: Adaptation Framework & Adaptation in other Ecosystems

Module 14: Connecting the Dots – Develop Climate Adaptive Forest Management Plan

Module 15: Climate Adaptive Silviculture Prescription Due

Module 16: Climate Adaptive Silviculture Prescription Presentations

Basis for Final Grade

<u>Assessment</u>	<u>Points of final grade</u>
Discussions	10%
Assignments	30%
Presentations 1. Communicating Impacts (10%) 2. Management Plan (20%)	30%
Climate Adaptive Silviculture Prescription	30%

General Grading Guideline:

- 90 - 100% (A);
- 80 - 89.9% (B);
- 70 - 79.9% (C);
- 60 - 69.9% (D);
- <60% (F).

Course Policies

Late Work Policy

Assignments not handed in on time (either in class or through Canvas) will be deducted 10% for each day that the assignment is late. It is your responsibility to talk with me if you have any questions about the assignments or their due dates. Assignments will not be accepted if overdue by more than five days. If a student cannot avoid missing a deadline due to a sanctioned university or professional event or special religious observances, the student is required to inform the instructor prior to the anticipated absence and develop a plan for submitting the work ahead of the deadline if possible.

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*)

Attendance Policy

Students who will miss class due to participation in University-sanctioned extracurricular/co-curricular activities must inform their instructors prior to the anticipated absence and take the initiative to make up missed work in a timely fashion. Instructors must make reasonable efforts to enable students to make up work which must be accomplished under the instructor's supervision (e.g., examinations, laboratories). In the event of a conflict in regard to this policy, individuals may appeal using established University procedures.

For the purposes of this regulation, University-sanctioned activities include competitions, events and professional meetings in which students are officially representing the institution. Appropriate sanctioned activities include:

- a) Intercollegiate athletics;*
- b) Collegiate club sports and competitions;*
- c) Conferences and workshops recognized by the University not related to academics;*
- d) Commitments on behalf of the University (ASCSU, band, etc.); and*
- e) Professional activities recognized by the University related to academics.*

Department heads or their designated representatives must approve sanctioned professional and departmental activities. Other sanctioned activities must be approved by the appropriate program director on record with the Division of Student Affairs offices or the Department of Athletics.

Final Exam Policy

Final examination week is part of the regular semester. Student attendance shall be consistent with University policy.

If a student has three or more final examinations (not classes) scheduled for the same day or if conflicts of examination times occur, the student may negotiate a time change with the instructors involved. If the parties involved cannot find a mutually agreeable time, the Registrar's Office indicates which courses must be changed.

***Note:** The Registrar's Office must be notified at least one week prior to Final Examination Week to allow instructors time to make appropriate accommodations. It is the student's responsibility to initiate negotiations.

Any student who has a conflict with the examination schedule must inform the instructor as soon as possible before the examination. If an agreement cannot be reached between the instructor and student as to the appropriateness of a make-up examination the student should appeal to the department head. <http://www.registrar.colostate.edu/final-exams>

Citing Sources in Assignments:

The writing center mentioned above 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.

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

This is an Inclusive Classroom

"Inclusive teaching involves deliberately cultivating a learning environment where all students are treated equitably, have equitable access to learning, and feel valued and supported in their learning.

Such teaching attends to social identities and seeks to change the ways systemic inequities shape dynamics in teaching-learning spaces, affect individuals' experiences of those spaces, and influence course and curriculum design."

- Adapted from the U-M Center for Research on Learning and Teaching (CRLT):

<http://crlt.umich.edu/node/90467>.

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.

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.

Religious Accommodation

Participation in official University activities, e.g., an out-of-town athletic event, or special religious observances may provide a legitimate reason for an excused absence. The student is responsible for discussing this with the instructor at the beginning of the semester.

CSU's Land Acknowledgment Statement

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>

Professionalism Policy

This course relies on sharing information and professional opinions. Therefore, it is of utmost importance to communicate with courtesy and professionalism. Professional Courtesy includes respecting others' opinions, being courteous and respectful, and working together in the spirit of cooperation. Sexist, heterosexist, and racist language should not be used when communicating in the course. Discussions and assignments will be graded on quality and professionalism.

E-mail Procedure: All e-mail sent to the instructor for this course should contain the following in the subject line: **Course Name and Number, Your Name, Short Description of your question**. Please refrain from sending out emails to large groups of recipients as to be respectful of others. Also note that the

same rules for etiquette in the online classroom (as mentioned above) apply to content in an e-mail. Sending e-mail that violates the rules mentioned above can result in disciplinary action taken by the school.

Classroom Technology Policies: This class will use a variety of supporting technologies within the virtual classroom. Etiquette and professional courtesy (as defined above) should be displayed when using these technologies as they are an extension of the classroom.

Academic Integrity

The Department of Forest and Rangeland Stewardship takes academic integrity seriously. At minimum, academic integrity means that no one will use another's work as their own. The CSU writing center defines plagiarism this way:

Plagiarism is the unauthorized or unacknowledged use of another person's academic or scholarly work. Done on purpose, it is cheating. Done accidentally, it is no less serious. Regardless of how it occurs, plagiarism is a theft of intellectual property and a violation of an ironclad rule demanding "credit be given where credit is due."

Source: (Writing Guides: Understanding Plagiarism.

<http://writing.colostate.edu/guides/guide.cfm?guideid=17>)

If you plagiarize in your work you could lose credit for the plagiarized work, fail the assignment, or fail the course. Each instance of plagiarism, classroom cheating, and other types of academic dishonesty will be addressed according to the principles published in the CSU General Catalog (under "Academic Integrity/Misconduct: <http://catalog.colostate.edu/general-catalog/policies/students-responsibilities/> .)

Of course, academic integrity means more than just avoiding plagiarism. It also involves doing your own reading and studying. It includes regular class attendance, careful consideration of all class materials, and engagement with the class and your fellow students. 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, we will ask to you sign the CSU Honor Pledge as part of completing all of our major assignments. While you will not be required to sign the honor pledge, we will ask each of you to write and sign the following statement on your papers and exams:

"I have not given, received, or used any unauthorized assistance."

Title IX Information

CSU's Student Sexual Harassment and Violence policy, following national guidance from the Office of Civil Rights, requires that faculty follow CSU policy as a "mandatory reporter" of any personal disclosure of sexual harassment, abuse, and/or violence related experiences or incidents shared with the faculty member in person, via email, and/or in classroom papers or homework exercises. These disclosures include but are not limited to reports of personal relational abuse, relational/domestic violence, and stalking. While faculty are often able to help students locate appropriate channels of assistance on campus (e.g., see the CSU Health Network link below), disclosure by the student to the faculty member requires that the faculty member inform appropriate CSU channels to help ensure that the student's safety and welfare is being addressed, even if the student requests that the disclosure not be shared.

For counseling support and assistance, please see the CSU Health Network, which includes a variety of counseling services that can be accessed at: <http://www.health.colostate.edu/>. And, the Sexual Assault Victim Assistance Team is a confidential resource for students that does not have a reporting

requirement and that can be of great help to students who have experienced sexual assault. The web address is <http://www.wgac.colostate.edu/need-help-support>.

Source: <http://oeo.colostate.edu/title-ix-sexual-assault>

Non-Discrimination Statement

Colorado State University does not discriminate on the basis of race, age, creed, color, religion, national origin or ancestry, sex, gender, disability, veteran status, genetic information, sexual orientation, gender identity or expression, or pregnancy. The University complies with the Civil Rights Act of 1964, as amended, related Executive Orders 11246 and 11375, Title IX of the Education Amendments Act of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, the Age Discrimination in Employment Act of 1967, as amended, The Pregnancy Discrimination Act of 1978, Americans with Disabilities Act of 1990, the Civil Rights Act of 1991, the ADA Amendments Act of 2008, the Genetic Information Nondiscrimination Act of 2008, and all civil rights laws of the State of Colorado. Accordingly, equal opportunity of employment and admission shall be extended to all persons. The University shall promote equal opportunity and treatment in employment through a positive and continuing affirmative action program for ethnic minorities, women, persons with disabilities, and veterans. The Office of Equal Opportunity is located in 101 Student Services. Source: <http://oeo.colostate.edu/non-discrimination-statement>

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.

Copyrighted Course Materials

Please do not share material from this course in online, print, or other media. Course material is the property of the instructor who developed the course. Materials authored by third parties and used in the course are also subject to copyright protections. Posting course materials on external sites (commercial or not) violates both copyright law and the CSU Student Conduct Code. Students who share course content without the instructor's express permission, including with online sites that post materials to sell to other students, could face appropriate disciplinary or legal action.

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.