

Michigan State University Forestry Department

Forest Carbon & Climate Program

Welcome! We will start in a few minutes.

MSU FCCP Mini Course: Forest Certification and Climate Change



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

Michigan State University Forestry Department

Forest Carbon & Climate Program

Professional Mini Course: Forest Certification and Climate Change



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

A Few Technical Details:

- Information session recording will be available on FCCCP website
- If you experience any technical issues, please send us an email at forestc@msu.edu and we will respond promptly

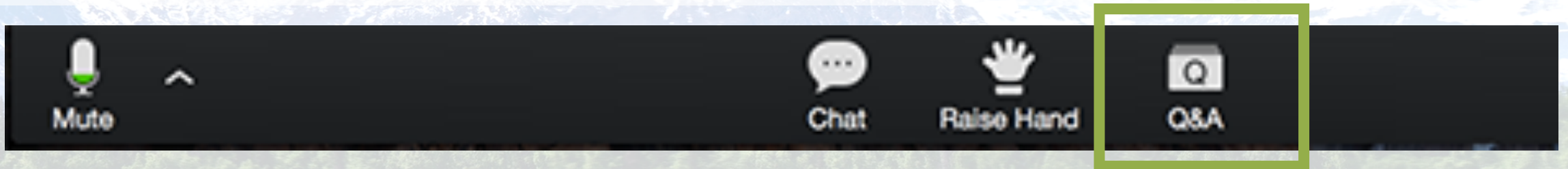
<http://canr.msu.edu/fccp>



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

A Few Technical Details:

- Q+A
 - Submit questions using the Zoom “Q&A” feature by clicking on the icon located at the bottom of your screen.
 - We will collect all questions to answer at the end of this webinar





Agenda

Part **1** **FCCP Program Background**

Part **2** **Short Course Overview**

Part **3** **Online Learning Environment**

Part **4** **Content Preview**

Part **5** **Registration/Enrollment**



Forest Carbon and Climate Program (FCCP) Background



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

FCCP Program Background

2012

Established
Online



Global
Participation



Updated,
Adaptable
Programming



Responsive to
Participant
Feedback

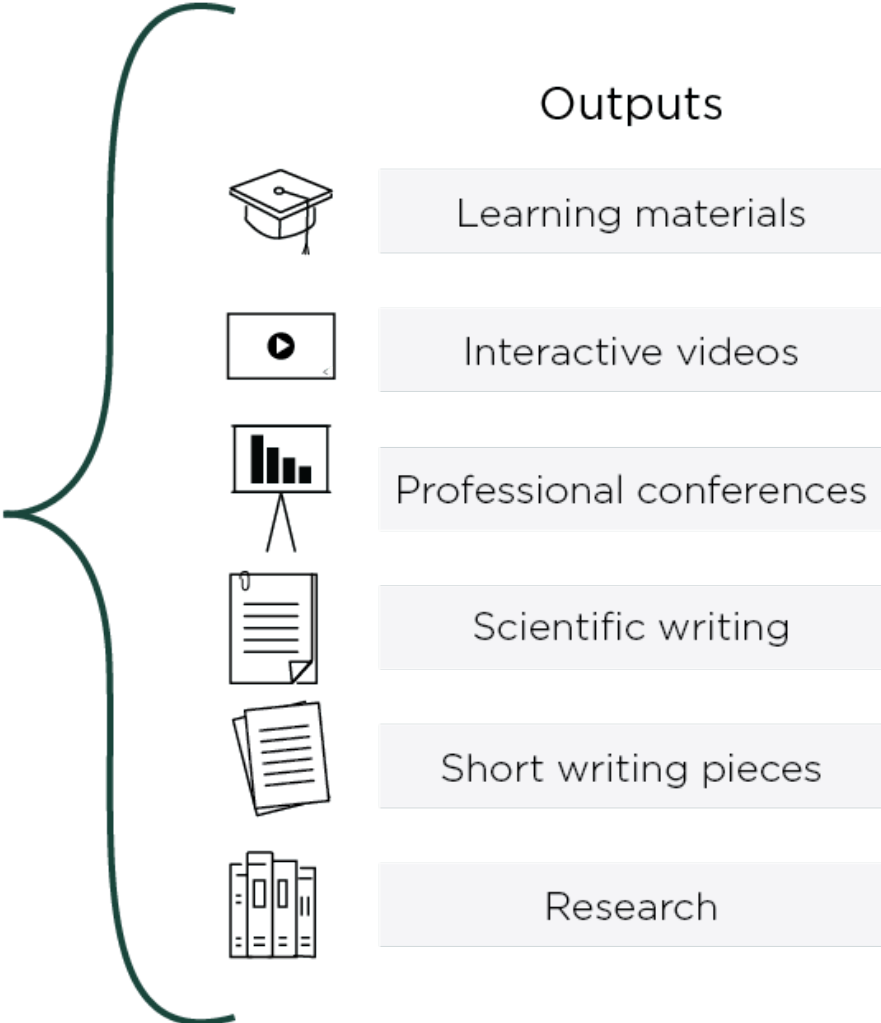


Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

Forest Carbon and Climate Program



Interdisciplinary Interpretation, Analysis, and Content



FCCP Program Activities

1

Formal Education

The Graduate Certificate in Forest Carbon Science, Policy, and Management

3

Research & Projects

Collaborative project-based work with strategic partners

2

Non- Formal Education

Short courses, workshops, and webinars that are eligible for continuing education units

4

Stakeholder Engagement

Meeting and event participation, published writing, engagement through the Forest Carbon & Climate Community



Program Background

- Boosting capacity for natural resource professionals
 - NGOs, governmental agencies, consultants
- Competitive edge for those in forest carbon project development, policy-making, and carbon offset investment advising
 - Industry, government actors, natural resource managers
- Interdisciplinary focus – bridging expertise silos and advancing solution-based planning



Forest Certification and Climate Change Mini Course Overview



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY



Forest Carbon & Climate Program

Mini-course

Forest Certification and Climate Change

Learners will develop a robust understanding of forest land values and ecologic services linking carbon management and climate change mitigation activities with forest certification.

Graduates will be able to:

- 1 Speak fluently and confidently about main concepts, science, and rationale behind carbon considerations in forest management
- 2 Develop awareness of key issues in valuing working forests for carbon sequestration
- 3 Incorporate climate change adaptation and mitigation strategies in forest certification standards
- 4 Assess climate benefits of certified sustainable harvested wood products and chain of custody tracking

Course Sections

Conceptual
Introduction
and Overview

Physical
Science of
Forests and
Climate

Forest
Certification
and Climate
Change

Timeline

Online
Self-paced
2-3 Weeks

Audience

Landowners
Natural Resource
Professionals
Conservationists
Educators
Extension
Agents

Start Dates

September 9
November 4

Contact

canr.msu.edu/fccp
forestc@msu.edu

Register: <https://www.canr.msu.edu/fccp/>

Course Description

This mini course is offered with support from SFI as part of a collaborative research project to identify connections between forest certification and climate change mitigation and adaptation.



Overall Course Objectives

1

Speak fluently and confidently about main concepts, science, and rationale behind carbon considerations in forest management

3

Ability to incorporate climate change adaptation and mitigation strategies in forest certification standards

2

Heightened awareness of key issues when managing forest carbon stocks and ways to address them

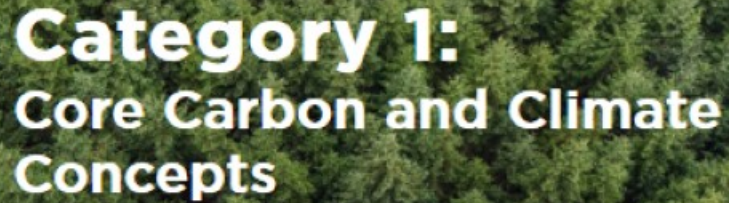
4

Increased capacity to assess climate benefits of certified sustainable harvested wood products and chain of custody tracking



Does

Forest Certification = Climate-Smart Forestry?



Category 1:
Core Carbon and Climate
Concepts

Fundamental concepts including climate change, mitigation, carbon, and adaptation



Category 2:
Management and
Carbon Storage

Core considerations for managing, measuring, protecting and planning for carbon storage in forested landscapes



Category 3:
Best Practices with
Climate Benefits

A broader array of best practices that provide, link to, or allow for climate benefits

Online Learning Environment

Accessing the online course, navigating online, contacts for assistance



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

Course Delivery & Online Environment

My Home

Login

[Need Login Help?](#)

Need Help?

MSU Distance Learning Services:

Local: (517) 432-6200

Toll Free: (844) 678-6200

(North America and Hawaii)

Web:

[D2L Contact Form](#) | [D2L Help Site](#)

MSU Links

[MSU Homepage](#)

The Spartan Code of Honor Academic Pledge

"As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor in ownership is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do."

System Status

Service Alerts

There have been no recent service alerts.

Scheduled Maintenance

[Maintenance] Mediasite May Experience Performance Issues During Planned Maintenance on 12/17/2018 12:00 PM-4:00 PM ([Details](#))

Mon, Dec 17 12:00am - 4:00pm

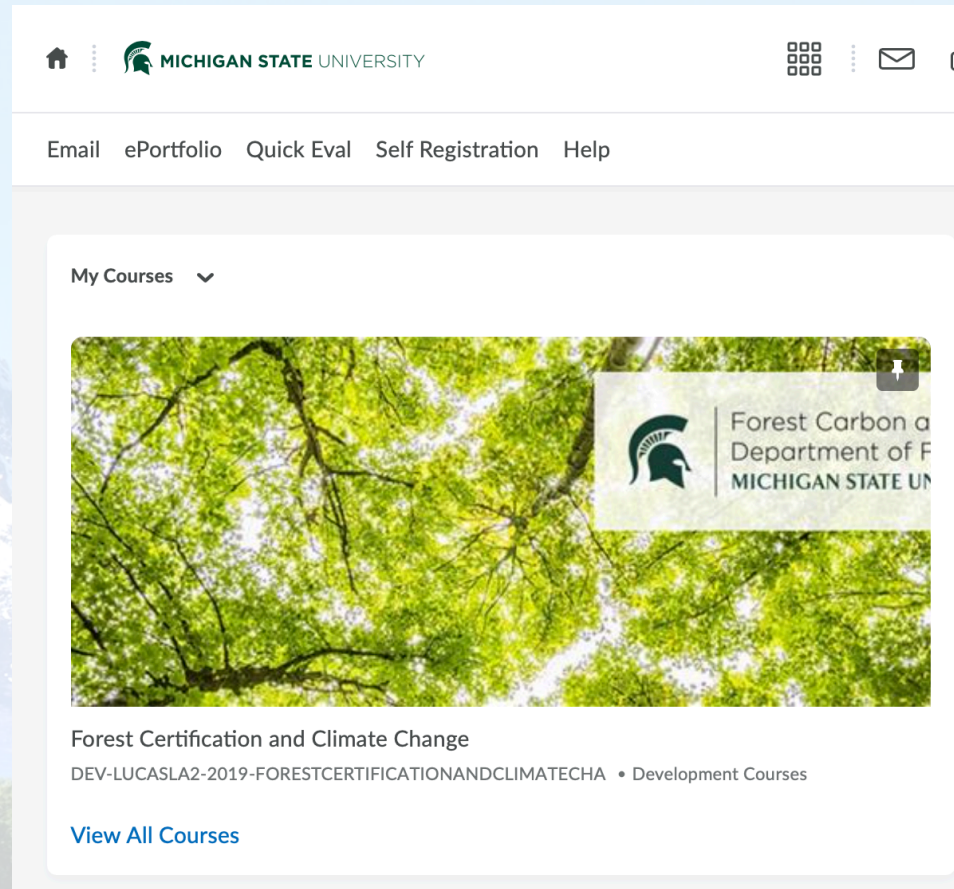
[Maintenance] Regulatory Affairs Training System (Saba LMS) Will Be Unavailable During Planned Maintenance on 11/30/2018 5:00 PM to 12/03/2018 8:00 AM ([Details](#))

Fri, Nov 30 5:00pm - Mon, Dec 3 8:00am



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

Course Delivery & Online Environment



The screenshot displays the Michigan State University online learning environment. At the top, the MSU logo and name are visible. Below the navigation bar, there are links for Email, ePortfolio, Quick Eval, Self Registration, and Help. The main content area shows a 'My Courses' section with a dropdown arrow. A course card is featured with a background image of green trees and a snow-capped mountain range. The card includes the MSU logo, the text 'Forest Carbon a Department of F MICHIGAN STATE UN', and the course title 'Forest Certification and Climate Change'. Below the title, the course ID 'DEV-LUCASLA2-2019-FORESTCERTIFICATIONANDCLIMATECHA' and the category 'Development Courses' are listed. A 'View All Courses' link is positioned at the bottom of the card.



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

Course Format

- This mini course consists of 3 modules with multiple sections
- Each section has a presentation, handout, terms and definitions, and suggested reading
- Completion of one section unlocks the next



Course Delivery & Online Environment

Course Home Content Course Admin Help

Search Topics



Overview

Bookmarks

Course Schedule

Table of Contents

24

Course Introduction and Overview
Begins April 18

3

Forest Carbon Science

10

Module 2: Optional Supplemental Readings

Presentation 1

2

Presentation 2

2

Presentation 3

2

Presentation 4

2

Forest Carbon Science

Print

Settings

All conditions must be met

Visits the content topic: Presentation: Module 1 Presentation 2 (7:36 min.)

Presentation Overview

There are five presentations included in this module. Note that you will not be able to move onto a presentation before completing the previous presentation.

Upload / Create

Existing Activities

Bulk Edit

Expand All | Collapse All

Module 2: Terms
PDF document

This PDF contains definitions for terms found throughout this module. Terms will additionally be included at the beginning of each course presentation.

Module 2: References and Resources
PDF document

Forest Certification and Climate Change - Content Question Submission
Survey

Submit any content-related questions you have regarding course materials here. Course creators will have direct access to this form's submissions, allowing them to more quickly get back to you with a clarification or additional information. As a reminder, any technical issues should be reported to forestc@msu.edu.

Course Delivery & Online Environment

Table Of Contents

Presentation 1
forestc@msu.edu

Slide Title	Duration
○ Introduction and Conceptual ...	00:23
○ Module 1 Outline	00:11
○ Project Partners	00:36
○ Overall Course Objectives	00:31
▾ Section 1	02:30
○ Establishing Online Lear...	00:18
○ Course Format	00:19
○ Technical Requirements	00:50
○ Course Access in D2L B...	00:13
○ Help and Technical Supp...	00:38
○ Help and Technical Supp...	00:10
▾ Section 2	03:06
○ Assessment and Academ...	03:06
○ Close	00:17

MSU Forestry Department
Forest Carbon and Climate Program

Mini Course Introduction: Climate Change + Forest Certification

Module 1 | Presentation 1



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

Technical Requirements

- Computer and internet access
- Enabled JavaScript and Cookies
- Adobe Flash Player 10.1 or greater
- This course requires streaming capabilities for the presentations as they run on the browser and cannot be downloaded.
- Two-factor authentication

Technical Requirements are listed in full at: <http://help.d2l.msu.edu/technical-requirements>.



Content Sneak Peek



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

Module 1

Introducing core concepts



Does

Forest Certification = Climate-Smart Forestry?



Category 1:
Core Carbon and Climate
Concepts

Fundamental concepts including climate change, mitigation, carbon, and adaptation



Category 2:
Management and
Carbon Storage

Core considerations for managing, measuring, protecting and planning for carbon storage in forested landscapes



Category 3:
Best Practices with
Climate Benefits

A broader array of best practices that provide, link to, or allow for climate benefits

Module 2 - Physical Science

Module 2.3

Science Background: Carbon Cycle and Storage

Forest Ecosystem Carbon Pools

1. Living Biomass: Leaves, twigs, stems, coarse roots and fine roots of trees, shrubs and herbaceous plants
2. Dead Biomass: Standing dead trees, downed trees, leaf litter (forest floor), dead roots
3. Soil Carbon or Soil Organic Matter (SOM): Humus, microbial biomass



Image: <http://www.forestryimages.org/>

Forest Types

1. Boreal: large accumulations of moss and undecomposed organic matter on the forest floor that are characteristic of these ecosystems
2. Tropical: multiple layers of vertical structure in aboveground biomass
3. Temperate: biomass pools associated with standing living trees, dead trees, and downed woody debris
4. Savannah: some aboveground carbon storage with a larger accumulation of belowground carbon storage



Images: <http://www.forestryimages.org/>

Residence Times of Organic Matter

Plant Residues	Residence Time
Leaf litter	Months to years
Root litter	Years
Bark	Decades to centuries
Wood	Decades to centuries
Soil organic matter (SOM)	Years to millennia

Source: Lorenz, K., & Lal, R. (2009). Carbon sequestration in forest ecosystems. Springer Science & Business Media

Table Of Contents

Module 2
Presentation 3

Slide Title	Duration
Science Background: Carbon...	00:10
Presentation Learning Object...	00:20
Presentation Outline	00:13
Terms and Abbreviations	00:14
Section 1	03:35
Pools of Carbon within F...	00:06
Carbon Pools in Trees an...	00:25
Forest Ecosystem Carbo...	00:58
Exercise: Forest Types	00:10
Belowground Carbon Po...	00:38
Residence Times of Org...	01:15
Section 2	03:50
Composition and Structure	00:10
Forest Stands	00:46
Forest Ecosystem Comp...	00:49
Forest Composition - Co...	00:27

01:21 / 10:01 Minutes

Carbon Pool (or Stock)

A system that has the capacity to store or release carbon. In forests, five main carbon pools or stocks are commonly recognized: above-ground biomass, below-ground biomass, dead wood, litter, and soil organic matter.

Carbon entering / exiting ecosystem (Red arrows)

Carbon flows within ecosystem (Green arrows)

Image: MSU FCCF



Module 3 - Certification

Table Of Contents	
Slide Title	Duration
○ Improved Forest Manage...01:10	✓
○ Improved Forest Manage...00:57	✓
○ Improved Forest Manage...01:29	✓
○ Improved Forest Manage...00:53	✓
○ Improved Forest Manage...00:40	✓
○ Improved Forest Manage...01:08	✓
▼ Harvested Wood Products 06:55	
○ Harvested Wood Product...01:01	
○ Harvested Wood Product...00:30	
○ Harvested Wood Product...01:19	✓
○ Harvested Wood Product...00:27	✓
○ Harvested Wood Product...01:11	✓
○ Harvested Wood Product...01:34	✓
○ Harvested Wood Product...00:49	✓
▼ Reforestation and Afforestation 04:04	
○ Reforestation / Afforesta...00:43	✓

Improved Forest Management (IFM)

Management and Carbon Storage 2

- In an IFM program/project, the landowner can grow and harvest, but carbon stock of the land or harvested wood product pools will increase over time
- Additionality represents increased carbon storage
 - How a forest would quantify the amount of carbon that results from special activities
 - This is also how projects would create credits that qualify for in an incentive or a market-based program

CO₂e tonnes per acre (onsite, aboveground)

Time (years)

Project Baseline
Project Activities
Additionality

Image: MSU FCCP

Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

NEXT

05:03 / 22:38 Minutes



Mitigation & Adaptation



- Harvested wood is part of the climate solution – but ONLY if it is sustainable
- Certification can ensure sustainability in management and procurement (and in climate benefits!)



SFI example:

Obj. 2: Forest Productivity and Health

- to protect forests from economically or environmentally undesirable levels of wildfire, pests, diseases, invasive exotic plants and animals, and other damaging agents and thus maintain and improve long-term forest health

SFI Core Principles



Resilient, healthy forests = climate adaptation

Registration / Enrollment



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

How to Enroll

- 1.** Purchase the course in our official MSU storefront
- 2.** Receive a MSU Community ID from the online education specialist, who will reach out to you after your purchase has been made
- 3.** Access your course in D2L (Desire 2 Learn) on the date the course opens




MSU Forestry Official Storefront

MSU Department of Forestry

Welcome to the MSU Department of Forestry catalog of non-credit professional development courses. These courses are available for all individuals interested in learning more about topics of forestry outside of a degree-granting program. Upon completion of a course, participants will receive a Certificate of Completion.

Description	Price	View
<u>Michigan's Forests</u> This course will cover the ecological, social and economic roles of Michigan's forests in historic and contemporary context. Geographic similarities and differences in forest resources.	\$600.00	View Details
<u>Introduction to Forestry</u> This course will cover the historical development of forestry. Forest growth, protection, management, and products. Relationship of national and world economy and policy to forestry. Emphasis on multiple uses of forests.	\$600.00	View Details
<u>Consulting Forestry</u> Through a combination of online lectures, discussions, exercises, field trips and projects students will gain the knowledge necessary to run their own consulting business while working in an ethical manner to manage forests while generating a profit. Several field trips are included in this course. including a county courthouse visit to review	\$725.00	View Details


Item(s): 0 Total: 0
Your basket is empty.
[View Basket](#) [Checkout](#)

<https://www.canr.msu.edu/for/continuing-education/>



Course Fees

Regular Pricing

\$250

Returning
Participants Pricing

\$188



Upon Short Course Completion



Certificate of
Completion



Discounted Access to
Future FCCP Training
Materials



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

Continuing Education Credits

- SFI Continuing Education (# of credits being verified)
 - Currently approved at the state level
 - If you are a state SFI Implementation committee, we need to know if your state is approving these credits
 - MSU Forestry handles tracking and reporting to state ICs
- Other types of credits available
 - SAF: 5.5 category 1 hours



Michigan State University Forestry Department

Forest Carbon & Climate Program

Questions?

Contact information:

- Lauren Cooper, FCCCP Program Director
- forestc@msu.edu
- canr.msu.edu/fcccp



Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY