

Course description

Forests cover over 30% of the land surface of the Earth and are incredibly important ecologically and economically. While forests show great capacity to withstand major disturbances, these ecosystems are increasingly threatened worldwide by climate change, native and introduced insects and disease, poor management practices, land clearing, drought, fire, and pollution. This course offers an overview of the dominant forest health threats, their causes, and their consequences. We will focus on how to monitor and mitigate these threats, and we will evaluate how anthropogenic forces of the past and present influence patterns of forest disturbance.

Syllabus

You can read my syllabus in the document titled “ForestHealth_Syllabus”.

Who needs Forest Health?

This course is required for students majoring in Forestry (B.S.F.) at UNH. Forest Health may also be an elective course for students in many other programs, including (but not limited to): undergraduate programs in the Department of Natural Resources and the Environment (i.e. Environmental Conservation and Sustainability) and graduate programs like the Natural Resources M.Sc. and the Natural Resources and Earth Systems Science Ph.D.

Teaching methods

In this course, students can expect to learn via lecture, discussion, reading, public speaking opportunities, indoor and outdoor labs, weekly homework assignments, and two individual projects. In lecture, I take care to organize important content and deliver it in a way that engages students. Our lecture sessions are 80 minutes, and I designed the class to ensure that students encounter more than one teaching modality in every class meeting.

Assessment methods

During each class meeting, I build in time for a retrieval practice. This is essentially a quiz (~5 questions) that gets students thinking about what we learned during our last class meeting. Sometimes we retrieve our knowledge in small groups, and other times we do this individually. We review the retrieval practice as a class, and this allows me to assess if my teaching was effective. I can address misconceptions in the moment, and I can tweak my lesson plan to review sticky topics going forward.

I formally assess student learning via weekly assignments, individual projects, and a final reflection. You can read more about these methods below.

Example assessments & activities

I designed 10 weekly assignments that I labeled as LTAs: Learning Target Assessments. Each LTA corresponded to a unit or topic from class, and the learning targets are explicitly stated. I intended for the LTAs to be a way for students to apply their knowledge from class, connect to their personal interests and experiences, and practice communicating their ideas. See an example LTA in the document titled “LTA_01”.

Course evaluation

Which learning activities were most valuable to student learning?

- *"I understood what I was gaining from doing each assignment and they definitely helped expand my knowledge of forest health."*
- *"Assessments were applications of knowledge as opposed to traditional exams."*
- *"Trapping bark beetles with Lindgren traps was both engaging and a good learning experience. I learn best through hands on activities and group discussions and this course had plenty of the two."*
- *"The in-class small group discussions were great, both for building community and for promoting learning through multiple channels (not just lecture)."*

Why would students recommend me as an instructor?

- *"Caroline has a teaching style that is very unique and outcome based, which I feel encourages learning higher levels of application, questioning, interpreting, and understanding than most other courses. The teaching style she uses allows for freshmen and PhD students to work in the same group and both leave with more understanding of the topic. I also think that the teaching style is very inclusive of different learning types, and gives opportunities for trying out learning styles that often don't get used in college courses."*
- *"I really felt like Caroline cared about us and cared about the subject material, and she did an excellent job teaching and designing the course plan."*
- *"The instructor is engaging, fun, and provides a learning space that is more relatable to students rather than spewing out information that is difficult to digest. The class is wide ranging in class activities."*
- *"I really enjoyed taking this class with Caroline. She was approachable and relatable, and made it feel like I was truly learning as opposed to just simply taking a class."*
- *"As an instructor, Caroline was consistently supportive, engaging, good at communicating ideas and reading the room, and clearly invested in the class and her students. She was also flexible, responsive to class needs, and well versed in how people learn most effectively. Her criteria for grading and expectations were clearly spelled out from the beginning, and she was always willing to answer questions. She did a great job of building a classroom environment where people were willing to talk, ask for clarification, explore new topics or ideas, and interact with each other. She was also open about what she didn't know (and would follow*

up on student questions she couldn't answer), which made for a much more comfortable and inclusive class dynamic."

Constructive criticisms from student evaluations:

- The lack of hard deadlines throughout the semester (as laid out in the syllabus) allowed some students to fall behind on assignments. We addressed this mid-semester, however: I presented several alternative deadline structures and students unanimously voted for a deadline schedule. The pacing of the course and schedule of deadlines is something that I will continue to tweak in the future, so I really appreciate the fact that students were vocal about this on the evaluations.
- Several students commented on how entomology-heavy the course was, so I am considering dissolving the forest entomology unit into its constitutive parts and instead introducing groups of forest insects in different parts of the semester. This course may be a student's only course with any entomology focus, so I can understand how the entomology unit could be overwhelming and more about insects than the forest health interactions.