

Soil Ecology (WI) NR 706/806

Time and Place: MW 9:10-11:00 online
Via Zoom: find the link in Canvas under “Zoom” tab

Instructors

Dr. Jessica G. Ernakovich, Department of Natural Resources & the Environment
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Office hours: T 3:40-5 & W 11:10-12 via Zoom or by appointment (using YouCanBook.me).
See links in the “Office Hours” tab on Canvas.

Course description, objectives, and outcomes:

Soil Ecology is a *4-credit, writing intensive course* that examines the ecological relationships between soil organisms and their biotic and abiotic environment, with emphasis on the role of soil microorganisms in biogeochemical cycling.

Specific objectives are to examine:

- the biodiversity present in soil,
- the biotic and abiotic factors controlling microbial growth and community properties, and
- the linkages between soil communities, soil physical and chemical properties, and soil organic matter and nutrient cycling dynamics.

Student learning outcomes: This semester, we will examine the fundamental concepts in the field of soil ecology and practice scientific collaboration. By the end of the semester, you will be able to:

- Describe what types and how many organisms are found in soil and the roles that these organisms play in various ecosystems.
- Describe the ecological relationships between soil organisms and their environment.
- Describe how global change is impacting soil biota and ecosystem functioning.
- Critically read the scientific literature.
- Construct and interpret conceptual models.
- Analyze figures, develop synthetic concept, write scientific arguments, and present work to scientific audiences.

Textbook: There is no required text. Assigned readings, lectures, and videos are posted on Canvas. The materials provided by me are subject to change but will be finalized no later than the Wednesday prior (by midnight). It is expected that students will read and/or watch all materials prior to class. I will make clear which readings are required for discussion. I also provide a separate list of general references (books, society names, journal names) in Canvas in the event that you need or want to do additional reading in soil science, ecology, or microbiology. You may also want to have on hand a general chemistry book, as I will be talking in some depth about soil and global biogeochemistry. When content is provided by your peers, it is expected that you will adhere to the policies outlined in your group contracts (which you will co-create week 1).

Course format/modality: This course will meet ONLINE twice per week in two-hour long blocks. Students will engage with the material through group work, active learning activities, and writing assignments using Zoom breakout rooms. Lectures will also be provided in and out of class. Much of the course is structured to mimic collaborative research relationships, many of which occur online via Zoom (even pre-COVID). As such, the intention is for you to gain content knowledge, but also knowledge and insight into the process of collaborative science. A primary focus of the course will be a writing projects culminating in a final synthesis project designed to provide you with the skills for finding (good) literature, reading it effectively, and generating new ideas through discussion and synthesis. This requires you to independently find and vet research and to curate that content for your group. You should expect this course to take you on average 12 hours a week outside of class, with student-led activities significantly increasing the first exam.

Student performance objectives: Students are expected to actively participate in classroom discussions; keep up with the assigned readings, lectures, and other pre-class material; complete in-class activities, reading assignments, a midterm and final exam; and write four research products (the last of which is a culmination of two). Late assignments (without prior consent or accommodation) will be assessed a penalty of 5% per day.

Grading:

- 25% In-class activities, reading assignments (and annotated bibliographies), peer review
- 25% Exams (mid-term and final)
- 30% Bring Your Own Papers (BYOP) synthesis writing and 3-slide synthesis (3x; modules 1-3)

- 20% Final paper, 3-slide synthesis, group presentation (module 4)

The grading scale for this course is: A = 100-93; A- = 92.9-90; B+ = 89.9-87; B = 86.9-83; B- = 82.9-80; C+ = 79.9-77; C = 76.9-73; C- = 72.9-70; D+ = 69.9-67; D = 66.9-63; D- = 62.9-60; F < 60.

The course will not be graded on a curve which means that every student has the opportunity to get an A for the course. Any uncompleted assignments or missed exams will receive a grade of zero. Extra credit assignments are not available—every student will be graded on the same basis for the same work. There are 800 points in this course, 50% of which is for individual and 50% of which is for collaborative work.

Disclaimer (otherwise titled “A note on NR 706 vs 806”): NR 706 and 806 are different courses. I reserve the right to grade the students with different expectations and to require different assignments. In the past, this has manifested as additional required exam essay questions for NR 806 and a take-home rather than in class final for NR 806. These differences will be determined through the semester. But please don't expect them to be the same. That would be unfair to both groups.

Schedule: available on Canvas (MODULE i ::: GETTING STARTED, COURSE BUSINESS)

Course Policies:

Course Disruption (particularly re: COVID)

Course requirements, deadlines and grading percentages are subject to change when necessitated by revised course delivery, semester calendar or other circumstances (such as a campus emergency). Information about changes in this course can be obtained at the myCourses site or by contacting me. This course has been modified to meet the challenges and opportunities of remote modality. I reserve the right to alter the syllabus if a change will better meet student learning outcomes. In the spirit of collaborative learning, I will only make changes to the syllabus after consultation with you.

Class recording

Lectures or other class meetings may be recorded for online transmission or classroom use using the UNH media platforms. Your voice or image may be captured on the recordings and the video or audio may be used by the University of New Hampshire and its agents or employees for the following purposes:

- Instruction for students enrolled in this class
- As a review tool for students enrolled in this class

Student Support Resources

UNH provides a number of ways to get academic and technical support with learning. For academic support available to UNH students see this [directory](#) of services and centers. This [article](#) has information to help you get technical support on items like submitting assignments, accessing software, and taking quizzes or exams including contacts for personalized assistance.

Student Disability Policy

Students who have or believe they may have a disability should make an appointment with the professional staff of Disability Services for Students (DSS) to determine their eligibility for course accommodation. Please contact Michael Shuttic, Director, or Janice Carlson, Disability Specialist, 201 Smith Hall, 603-862-2607. Students should see me to discuss individual academic accommodations. For more information refer to www.unh.edu/studentaccessibility or contact SAS at 603.862.2607, 711 (Relay NH) or sas.office@unh.edu.

Emotional or mental health distress

Your emotional and mental health are very important to me, and I recognize that academic success can be a major stressor even in the best of times. If, during the semester, you find emotional or mental health issues are affecting that success, please contact [Psychological and Counseling Services](#) (PACS) (3rd fl, Smith Hall; 603 862-2090/TTY: 7-1-1) which provides counseling appointments and other mental health services.

Netiquette Guidelines

“Netiquette” is the socially and professionally acceptable way to communicate on the Internet. Please abide by these guidelines of netiquette when using online communication tools with your classmates and instructor. **Your attention and engagement is required during all activities. You must not have other apps and platforms open during this class.** *Please only have Zoom, Canvas, your pdf viewer, and notetaking applications open. Of course, if you require other applications to accommodate learning or health needs, that is fine. (See a note on SAS accomadations and feel free to come talk to me about it.) We will discuss “best practices” for online engagement on day 1. This is hard. I understand that.*

In Zoom or video conferences:

- **Turn on your camera** when your network bandwidth and learning space allows. Facial expressions and body language are an important part of communicating.
- Connect a few minutes early.
- Remove clutter or personal items around you.
- Avoid background noise.
- Consider using a headset to reduce distractions.
- Keep your device (phone, computer, etc.) on mute unless you are speaking.
- Speak clearly, but not too loudly.
- Use, but don't abuse the chat box—keep the conversation respectful and on topic.
- Remember that a video conference has the same degree of respect as a live class, consider your appearance behavior on camera the same you would in the classroom.

In discussion boards and email messages:

- Identify yourself. Begin messages with a greeting and close with your name.
- Avoid sarcasm. It can be misinterpreted and cause hurt feelings.
- Keep the dialog collegial and professional. Some discussion topics may be controversial.
- Do not flame - These are outbursts of extreme emotion or opinion. Think twice before you submit a response. You cannot edit or delete your posts once they have been submitted.
- Do not use offensive language or profanity.
- Use clear subject lines for your posts.
- Do not use all caps. It is the online equivalent of YELLING!
- Use [emoticons](#) to clarify your emotions. They add context to your words that cannot be seen otherwise. :)
- Be forgiving. Anyone can make a mistake.

Respondus Lockdown Browser

This course may require the use of “LockDown Browser” for online quizzes or exams. LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted. Watch this [short video](#) to get a basic understanding of LockDown Browser and use this [article](#) for instructions on how to install the browser and take an exam or quiz. Here are some other [tips](#) on taking online exams.

Academic Misconduct

Consistent with UNH policy, anyone caught engaging in academic misconduct will be assigned an F for the course and the issue will be reported to the dean for further action. Academic misconduct is defined as any activity that compromises the academic integrity of the institution. Examples of academic misconduct include, but are not limited to:

- providing or receiving information during quizzes and examinations;

- submitting plagiarized work for an academic requirement. Plagiarism is the representation of another's works or ideas as one's own; it includes the unacknowledged word for word use and/or paraphrasing of another person's work, and/or the inappropriate, unacknowledged use of another person's ideas;
- falsification, fabrication, or dishonesty in reporting findings; and
- alteration of grades or marks by the student in an effort to change the earned grade or credit.

Please see UNH's tutorials on Academic Misconduct:

- [University Academic Honesty Policy](#)
- [Tutorial on Plagiarism](#)

Confidentiality and Mandatory Reporting

The University of New Hampshire and its faculty are committed to assuring a safe and productive educational environment for all students and for the university as a whole. While I am here to be supportive to your emotional and physical well-being, I am legally required to report sexual violence and/or harassment to the university's Title IX Coordinator (Donna Marie Sorrentino, dms@unh.edu, 603-862-2930/1527 TTY). If you wish to speak to a confidential support service provider who does not have this reporting responsibility (their discussions with clients are subject to legal privilege), you can find a list of resources here ([privileged confidential service providers/resources](#)). Please visit [student reporting options](#) for more information about what happens when you report, how the university considers your requests for confidentiality once a report is made to the Title IX Coordinator, and your rights and report options at UNH (including anonymous report options).