

O'Neill

Lead for the Greater Good

**O'Neill School of Public and Environmental Affairs
/E528 FOREST ECOLOGY AND MANAGEMENT/**

Fall Semester, 2024

Indiana University - Bloomington

Instructor: R.D. Sample; rdsample@iu.edu; Office 412

Teaching Assistant: Ethan Iverson; ethivers@iu.edu

Lecture Meeting: Wednesday, 4:45-6:00; SPEA A203

Lab Meeting: Friday, 1:00-5:00; Meeting locations varies

Office Hours: By appointment, email me to set an appointment

Course Description: Field and laboratory exercises in quantitative analysis of forest ecosystems. Sampling and data collection methodologies. Data analysis and interpretation. Concepts in forest ecology and forest management.

Learning Outcomes: In this course, students will learn:

- Fundamental concepts in forest ecology and management with a particular focus on forests in the Central Hardwood Region
- To evaluate and measure forest structure and composition in the field
- To evaluate relevant scientific research and apply it to practical management issues
- To understand diversity of functions and stakeholders related to Indiana forests
- To assess historic, current, and future threats to forest ecosystems and identify management techniques to mitigate these threats

O'Neill School expectations of civility and professional conduct

The O'Neill School takes matters of honesty and integrity seriously because O'Neill is the training ground for future leaders in government, civic organizations, health organizations, and other institutions charged with providing resources for the public, and for members of society who are vulnerable and who are lacking in power and status. Precisely because O'Neill graduates tend to rise to positions of power and responsibility, it is critical that the lessons of honesty and integrity are learned early.

O'Neill requires that all members of its community – students, faculty, and staff – treat others with an attitude of mutual respect both in the classroom and during all academic and nonacademic activities outside the classroom. A student is expected to show respect through behavior that promotes conditions in which all students can learn without interruption or distraction. These behaviors foster an appropriate atmosphere inside and outside the classroom:

- Students are expected to attend class regularly and to be prepared for class.
- Students must be punctual in their arrival to class and be present and attentive for the duration of the class. Eating, sleeping, reading the newspaper, doing work for another class, wandering in and out of the classroom, and packing up or leaving class early are not civil or professional behaviors.
- Students must abide by the course policy regarding use of electronic devices in the classroom.
- Students must responsibly participate in class activities and during team meetings.
- Students must address faculty members, other students, and others appropriately and with respect, whether in person, in writing, or in electronic communications.
- Students must show tolerance and respect for diverse nationalities, religions, races, sexual orientations, and physical abilities.
- Students must not destroy or deface classroom property nor leave litter in the classroom.

Course Requirements:

| Requirement | Grade Percentage | Description |
|----------------------|------------------|---|
| Participation | 10 | Based on attendance and discussions during lecture and lab. |
| Quizzes | 10 | Weekly quizzes that will cover the previous weeks lecture and the current weeks readings. |
| Literature reviews | 15 | Each week a group will be in charge of assigning and reviewing a paper for the rest of the class. |
| Lab assignments | 20 | A review of the main ecological theories/principles of the previous week's lab and a lab report. |
| Midterm exam | 15 | An exam covering the concepts from the first half of lecture. |
| Final exam | 15 | An exam covering the concepts from the last half of lecture. |
| Forests of the world | 15 | A group project focused on the forest ecosystems found outside of the Central Hardwood Forest Region. |

Grading scale: A+ (97–100), A (93–96), A- (90–92), B+ (87–89), B (83–86), B- (80–82), C+ (77–79), C (73–76), C- (70–72), D+ (67–69), D (65–66), D- (below 65).

Academic integrity: Students have a responsibility to maintain a high level of academic integrity.

Please visit <https://studentcode.iu.edu/> to learn more.

Using AI (such as ChatGPT) to assist in completing assignments in this class is prohibited. If you do use AI, you will be committing plagiarism* and will be subject to penalties in this class and sanctions by Indiana University.

*Plagiarism: Plagiarism is defined as presenting someone else's work, including the work of other students, as one's own. *Any ideas or materials taken from another source* for either written or oral use *must be fully acknowledged*, unless the information is common knowledge. What is considered "common knowledge" may differ from course to course. <https://studentcode.iu.edu/responsibilities/academic-misconduct.html>.

Several commercial services have approached students regarding selling class notes/study guides to their classmates. Selling the instructor's notes/study guides in this course is not permitted. Violations of this policy will be reported to the Dean of Students as academic misconduct (violation of course rules). Sanctions for academic misconduct may include a failing grade on the assignment for which the notes/study guides are being sold, a reduction in your final course grade, or a failing grade in the course, among other possibilities. Additionally, you should know that selling a faculty member's notes/study guides individually or on behalf of one of these services using IU email, or via Canvas may also constitute a violation of IU information technology and IU intellectual property policies; additional consequences may result.

The faculty member teaching this course holds the exclusive right to distribute, modify, post, and reproduce course materials, including all written materials, study guides, lectures, assignments, exercises, and exams. While you are permitted to take notes on the online materials and lectures posted for this course for your personal use, you are not permitted to re-post in another forum, distribute, or reproduce content from this course without the express written permission of the faculty member. Any violation of this course rule will be reported to the appropriate university offices and officials, including to the Dean of Students as academic misconduct

Texts: No required texts to purchase. Required readings will be posted on Canvas each week and should be read before the associated class period so they can be discussed.

Course Policies:

- Attendance: As graduate students and as human beings, I understand your schedules are full. If you need to miss a lecture or lab for any reason, please let me know prior to the missed session. We can discuss the best path forward for you to make up for anything missed.
- Make-up Exams: Exams are take-home. However, if you need an extension due to an unforeseen and unavoidable issue that can be made available. These issues will be evaluated on a case-by-case basis.
- Late Assignments: In general, every day an assignment is late will result in a 10% penalty (the equivalent of a full letter grade). Contact me well in advance if something will be late and you need an extension. Again, I understand that your schedule is busy, so I am happy to work with you.
- Technology Use: Please feel free to use electronics when it's appropriate. If the use of phones, laptops, tablets during lecture or lab becomes distracting I will ask you to put it away.
- Late Withdrawal: After the auto-W deadline, withdrawal will be significantly limited, and you will need permission to withdraw and must meet requirements established by O'Neill.

Schedule of Assignments: The below schedule is subject to limited change in the event of extenuating circumstances. Any changes will also reflect changes in the due dates of related assignments. Weekly readings will also be required and will be determined on a week-by-week basis. Reviews of these readings will also be due but are not reflected on the schedule. They are due the class period where the reading is discussed.

| Week | Date | Topic |
|------|--------|---|
| 1 | Aug 28 | Class Intro |
| | Aug 30 | <i>Forest Measurements and Species ID</i> |

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| 2 | Sep 4 | Ecosystems and communities |
| | Sep 6 | <i>Forest Measurements and Species ID</i> |
| 3 | Sep 11 | Structure |
| | Sep 13 | <i>Forest Inventory</i> |
| 4 | Sep 18 | <i>Disturbance</i> |
| | Sep 20 | <i>Forest Inventory</i> |
| 5 | Sep 25 | Masting/Seed Dispersal |
| | Sep 27 | <i>Forest Inventory</i> |
| 6 | Oct 2 | Regeneration/Growth |
| | Oct 4 | <i>Forest Inventory</i> |
| 7 | Oct 9 | Succession |
| | Oct 11 | <i>Fall Break</i> |
| 8 | Oct 16 | Silviculture |
| | Oct 18 | <i>Vegetation Management</i> |
| 9 | Oct 23 | Invasive Species |
| | Oct 25 | <i>Invasion Areas</i> |
| 10 | Oct 30 | Prescribed Fire and Habitat Management |
| | Nov 1 | <i>Burn Areas and Wildlife Research</i> |

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| 11 | Nov 6 | Soil and Water |
| | Nov 8 | <i>Best Management Practices and Monitoring</i> |
| 12 | Nov 13 | Climate and Carbon |
| | Nov 15 | <i>Flux Tower</i> |
| 13 | Nov 20 | Indigenous Ecology |
| | Nov 22 | <i>Lab-report Preparation</i> |
| 14 | Nov 27 | Thanksgiving |
| | Nov 29 | <i>Thanksgiving</i> |
| 15 | Dec 4 | People, Policy, and Process |
| | Dec 6 | <i>Presentation Preparation</i> |
| 16 | Dec 11 | Presentations |
| | Dec 13 | <i>Presentations</i> |

| Assignment | Due Date |
|------------------------------------|----------------------|
| Review of Forest Measurements | September 6th, 2024 |
| Species ID Key | September 13th, 2024 |
| Ecosystem Selection (Group) | September 25th, 2024 |
| Midterm Exam | October 16th, 2024 |
| Ecosystem Summary (Group) | October 23rd, 2024 |
| Lab Review – Vegetation Management | October 25th, 2024 |
| Lab Review - Invasives | November 1st, 2024 |

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| Lab Report - Background and Methods (Group) | November 1st, 2024 |
| Lab Review - Fire and Habitat | November 8th, 2024 |
| Lab Review – Soil and Water | November 15th, 2024 |
| Lab Review - Climate and Carbon | November 22nd, 2024 |
| Lab Report - Full (Group) | December 4th, 2024 |
| Final Exam | December 11th, 2024 |
| Group Presentation | December 13th, 2024 |

Class Conduct: I hope to maintain a relatively informal atmosphere during class, but I insist that you be courteous and respectful to everyone in the class, both in the classroom and online. Failure to do so will be reflected in your participation grade and could lead to further action.

Additional information:

Counseling and Psychological Services

For information about services offered to students by

CAPS: <http://healthcenter.indiana.edu/counseling/index.shtml>

TimelyCare

Indiana students have free, 24/7 access to virtual mental health care services with TimelyCare.

Students do not need insurance to access TimelyCare services. <https://www.iu.edu/mental-health/find-resources/timely-care.html#0>

Religious Observation

In accordance with the Office of the Dean of Faculties, any student who wishes to receive an excused absence from class must submit a request form available from the Dean of Faculties for each day to be absent. This form must be presented to the course instructor by the end of the second week of this semester. A separate form must be submitted for each day. The instructor will fill in the bottom section of the form and then return the original to the student. Information

about the policy on religious observation can be found at the following website: <https://policies.iu.edu/policies/aca-59-accommodation-religious-observances/index.html>

Accessible Educational Services (formerly Disability Services for Students)

Securing accommodations for a student with disabilities is a responsibility shared by the student, the instructor, and the AES Office. For information about support services or accommodations available to students with disabilities, and for the procedures to be followed by students and instructors: <https://studentlife.indiana.edu/student-support/iub-aes/index.html>

Sexual Harassment

As your instructor, one of my responsibilities is to help create a safe learning environment on our campus. Title IX and our own Sexual Misconduct policy prohibit sexual misconduct. If you have experienced sexual misconduct, or know someone who has, the University can help.

If you are seeking help and would like to talk to someone confidentially, you can make an appointment with:

- i. The Sexual Assault Crisis Service (SACS) at 812-855-8900
- ii. Counseling and Psychological Services (CAPS) at 812-855-5711
- iii. Confidential Victim Advocates (CVA) at 812-856-2469
- iv. IU Health Center at 812-855-4011

For more information about available

resources: <http://stopsexualviolence.iu.edu/help/index.html>. It is also important to know that federal regulations and University policy require me to promptly convey any information about potential sexual misconduct known to me to our campus' Deputy Title IX Coordinator or IU's Title IX Coordinator. In that event, they will work with a small number of others on campus to ensure that appropriate measures are taken and resources are made available to the student who may have been harmed. Protecting a student's privacy is of utmost concern, and all involved will only share information with those that need to know to ensure the University can respond

and assist. I encourage you to visit <http://stopsexualviolence.iu.edu/help/index.html> to learn more.

Commitment to Diversity: Find your home and community at IU

Asian Culture Center

Address: 807 East Tenth Street, Bloomington, IN 47408

Phone: 812-856-5361

Email: acc@indiana.edu

Website: <https://asianresource.indiana.edu/index.html>

First Nations Educational & Cultural Center

Address: 712 E 8th St., Bloomington, IN 47408

Phone: 812-855-4814

Email: fnecc@indiana.edu

Website: <https://firstnations.indiana.edu/contact/index.html>

Jewish Culture Center

Address: 730 E 3rd St., Bloomington, Indiana 47401

Phone: 812-336-3824

Website: <https://iuhillel.org/iu-jewish-culture-center>

LGBTQ+ Culture Center

Address: 705 E 7th St., Bloomington, Indiana 47408

Phone: 812-855-4252

Email: glbtserv@indiana.edu

Website: <https://lgbtq.indiana.edu/contact/index.html>

La Casa Latino Culture Center

Address: 715 E 7th St., Bloomington IN, 47408

Phone: 812-855-0174

Email: lacasa@indiana.edu

Website: <https://lacasa.indiana.edu/>

Neal-Marshall Black Culture Center

Address: 275 N Jordan Ave Bloomington, Indiana 47405

Phone: 812-855-9271

Email: nmgrad@indiana.edu

Website: <https://blackculture.indiana.edu/index.html>