Fall 2024 Course Syllabus

Urban Forest Management

SPEA E422/522 (3 credit hours)



Faculty Instructor:

Dr. Sarah Mincey Clinical Associate Professor O'Neill School of Public and Environmental Affairs skmincey@iu.edu

Teaching Assistant:

Regan Mangrum
Masters Candidate
O'Neill School of Public and Environmental Affairs
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Class meetings (in-person):

DAYS & TIME: Tuesday / Thursday, 11:30am – 12:45pm EST LOCATION: Tocqueville Room, Ostrom Workshop (513 N Park Ave.)

Zoom:

https://iu.zoom.us/my/skmincey

Instructor/student meetings:

By appointment; email Sarah or Regan to schedule

Course Description

This course, framed by a social-ecological systems perspective, explores the theory and practice of sustainable urban forest management for resilient cities. Urban trees and their associated vegetation provide a myriad of ecological, social, and economic benefits to communities, particularly as adaptation and mitigation to climate change. Arguably, some aspects of urban forests produce disservices, as well. In either case, urban trees impact people. Likewise, people impact trees; human decision-making and actions – active and passive ones – help to structure the urban forest and thus, mediate its benefits and costs. For example, while communities may commit to plant millions of street trees, they may simultaneously ignore vulnerable remnant forest stands planned for removal by developers. Similarly, while trees help us adapt to/mitigate climate change, they are also affected by climate change. In other words, urban forest structure and function are embedded within a complex, adaptive system with emergent properties – an ecological system intricately linked to human social systems. Such systems require active management through collective action for the sustainable production and equitable distribution of their public good.

This course will cover both the theory and practice underpinning urban forest management and, as a service-learning course, offers students the chance to help better their community while achieving learning outcomes. Such an approach requires a multi-method course format. Outside of class, students will be expected to read a moderate amount (~2 hours/week) of authoritative literature and popular media to prepare for class activities and to undertake course assignments; and students will spend time in the field collecting data for service-learning assignments. Classroom time will be spent in a mix of discussion, instructor-offered lectures, group presentations, peer-to-peer/group activities, classroom exercises, and importantly, guest presentations and discussions. Professionals and community members impacting urban forestry will join us over the course of the semester. Students should give great effort to be prepared and engage them for their generosity of time and the network they represent for supporting students' course projects and future careers.

Course Learning Goals and Objectives

This course is designed to equip each student with the knowledge and skill sets to successfully <u>evaluate</u> the sustainability of urban forests through a holistic, social-ecological lens. At the end of the course, students should be able to:

- 1. <u>Apply</u> a social-ecological systems framework and relevant theory to evaluate urban forest management decisions for sustainable outcomes that contribute to resilient cities.
- 2. <u>Understand</u> the benefits (ecosystem services) and costs of urban forests and <u>apply</u> their valuation for management strategies.
- Evaluate urban forests through data street tree and urban forest inventory analysis

 and provide real-world recommendations to community partners through service-learning projects.
- 4. <u>Understand</u> basic tree biology, morphology and taxonomy, tree planting and maintenance strategies for urban settings and <u>apply</u> it for urban forest management.

- 5. <u>Understand</u> the governance of urban forests (e.g. governing bodies across scales, tree law, etc.) and <u>apply</u> that knowledge toward sustainable management strategies.
- 6. <u>Understand</u> the variety of actors and organizations across sectors influencing urban forest structure and <u>evaluate</u> their positionality in developing management strategies.
- 7. <u>Understand</u> local and regional urban forestry contacts which expand students' networks for service, internships, and career opportunities.
- 8. <u>Apply</u> general management skills (leadership, communication, planning/organizing, holistic and strategic-thinking, problem-solving, conflict management) through group work.

Course Format and Required Equipment

This course runs in person but I will do my best to also run each class on Zoom and record it, as well. I expect that through the semester some of you may be ill, some of you may have sick kids at home, etc. If I am in these circumstances, there may be occasion where we cannot meet in person but only on Zoom. So please be prepared to switch to Zoom and watch your email for notification. Otherwise, class will usually meet in the Ostrom Workshop Tocqueville Room. We have numerous field days over the course of the semester, so be prepared to meet elsewhere on campus and to wear appropriate clothes for the activity and weather; I will notify you ahead of time.

Readings and Canvas

Students will be expected to read a moderate amount (~2 hours / week) of authoritative literature as well as popular media to prepare for weekly class discussions and activities and to undertake course assignments. There is no textbook for this course. Rather, I will supply course reading and viewing materials via Canvas. Individual readings are contained within "Modules" which are tied to individual weeks of the course schedule (see below); each week's readings and Class Prep Prompts should be completed prior to our Tuesday class (see details below in Graded Course Assignments – Class Prep Prompts).

Graded Course Assignments

Canvas will be used for dissemination of and submission of assignments through the "Assignments" tab in Canvas and linked from "Modules." Grades for assignments will be posted through Canvas. There are four main graded sets of assignments for this course. These assignments are summarized below but more details, including grading rubrics, are included with the official assignment documentation on Canvas.

1. Individual Class Participation (25% of overall grade) – assessed throughout semester

There are 10 Participation Assessment Activities (detailed below) across the course of the semester. Some are in-class activities, some will be out-of-class activities, and some will be completed individually, and some will be group activities. For each activity, your participation will be assessed on a simple scale of 0 to 2, where 0 = no participation, 1 = weak/moderate participation, and 2 = strong/full participation (a specific grading rubric for each will be on Canvas). At the end of the semester, full credit for participation is equivalent to a participation assessment activity score which sums to 20. Participation Assessment Activities include:

- I. UF News & Current Events (individual activity; anytime during the semester): I'll allot 5 minutes of class for sharing *course-related* news or current events. Presenters MUST 1) summarize the story, 2) connect it to course content, and 3) cite source.
- II. Tree Benefit/Cost Debate (in-class group activity + group discussion board)—
 assessed on 9/5): You will read literature focused on the ecosystem services and
 disservices of urban trees. Your group will use the discussion board to develop notes
 for an in-class debate. In class, your group will defend a position using your notes.
- III. SES Mapping (group discussion board assessed on 9/12): In a group discussion board, identify an urban forest news story and then work to map the SES factors that appear to be contributing to a specified outcome.
- IV. A. <u>Undergrad Student</u> Technical Writing Workshop (assessed in class on 10/3): In-class activities that will allow you to practice technical writing, data visualization, graphing, etc. You will work on small groups and offer peer review to earn points.
 B. <u>Graduate Student</u> Interview of Community Partners (assessed in class on 10/3): In-class activity to allow you to meet and gather data from Community Partners about Crestmont Neighborhood, the site of your Group Research Project.
- V. Tree Planting (complete in Oct / Nov; campus tree planting date TBD): Over the course of the semester, participate in a tree planting; document in photos and through reflection of your concerns / questions about the process.
- VI. Tree ID (individual out-of-class activity + group discussion board from 9/26, due 10/22): Your tree ID skills will be improved through documenting your process with a few trees from the field. You will upload tree ID photos/process to a discussion board and critique your group member's work there as well.
- VII. Group Research Project Progress (group discussion board assessed on 10/31): A discussion board post that identifies the group's research project topic, timeline for research project completion, roles for group members.
- VIII. Tree Law Cases (group activity assessed on 11/7): You will be presented with a few legal cases that involve urban tree issues. Your participation in this group discussion board and class discussion will be assessed.
- **IX.** Redlining Map Reflection (group discussion board assessed on 11/21): You will individually research a specific location in a redlined city, develop a discussion post for your group, and offer feedback to your group members for assessment.

X. Attendance in compliance with attendance policy (below): Participation can only happen if you show up (in person or virtually*, as needed). You will receive 2pts for perfect attendance, 1pt for missing no more than 1 class, and zero points for missing 2 or more classes. *See attendance policy!

2. Individual Street Tree Inventory and Analysis (25% of overall grade) – Due by midnight on Friday 10/25

The goal of this assignment is to collect and analyze street tree data like an urban forest manager. Individually, you will be responsible for inventorying at least 30 consecutive street trees on a city street segment. You will collect each tree's location, genus, species, size and condition. You will then analyze these data to assess the sustainability of your street tree population using urban forest management benchmarks discussed in class. You will present your analysis in a short, technical report (~5-7 pages) that heavily utilizes figures and tables and references literature from the field. More details about this assignment are provided through the Canvas assignment and through in-class discussion.

3. Class Prep Prompts (25% of overall grade) – due weekly by Tuesday's class*

For every weekly module, you will have a set of materials – journal articles, government technical reports, news media, recorded lectures or videos, etc. – meant to prepare you for class on that week's topic. Your careful review of these materials is key to meet the course learning outcomes and for us to have time in class for critically thinking about and discussing the issue and making connections across course themes. To incentivize you to take time to review these materials, you will respond to a few questions in Class Prep Prompts related to the week's material. Generally, these are assigned each week, but *there may be a few weeks without them (check Canvas Modules). Each course module is opened at least one week in advance and Class Prep Prompts will be available on Canvas at that time and for ONLY two days after the due date. Please pay attention to answer all components of the question(s) with no less than 100 words, no more than ~300 words.

4. Group Research Project (25% of final grade) - Due 12/12 and 12/19

Undergraduate Students: We can't possibly cover all topics or any one topic in great depth over the semester, so the goal of the group research project is to allow you to explore a topic of your group's interest in greater depth and share it with your classmates. Regardless of the topic you choose, the research must be framed through a social-ecological systems lens, considering the <u>interacting social</u>. ecological and institutional factors in play. There are two products that will come from this research project – 1) an annotated bibliography/synthesis and 2) a research presentation to be given to your classmates. The work will be completed in self-determined groups of ~4 students. More details about this assignment and a grading rubric will be posted to Canvas and introduced in early October. On 10/31, a related Participation Assessment Activity will require that you submit a research topic, a timeline for research project completion, and roles for group members. Final presentations and annotated bibliographies are due on 12/19, during our finals slot.

Graduate Students: The graduate section of this course is a part of a grant-funded program, "Community-engaged Learning for Urban Resilience: Developing a Graduate-Level, Multi-Course Model." The goal of the over-arching project is to support graduate education while simultaneously supporting Indiana communities' urban resilience. Multiple faculty and their classes are involved from both the Bloomington and Indianapolis campuses. Each course serves the same Community Partners toward course-specific goals that build toward the larger collective goal. For this year, the courses will support community partners' efforts to create urban resilience in the Crestmont Neighborhood of Bloomington, Indiana. Graduate students will work in teams to develop a report and related presentation for Community Partners that assesses the current neighborhood tree population, community assets, and governance tools to advise on optimal tree planting and maintenance in Crestmont to meet Partners' goals while honoring residents' needs. This assignment leverages the Individual Street Tree Inventory and Analysis assignment (above) through which grad students will collect data in Crestmont. Additional data collection and analyses will be required to produce a single report and presentation to Community Partners on behalf of all grad students. More details about this assignment and a grading rubric will be posted to Canvas and introduced in early October. On 10/31, a related Participation Assessment Activity will require that you submit a project plan including a timeline for milestone completion and roles for group members. The final presentation and report are due on the final day of class, 12/12.

Course Grades

Course grades will follow the scale:

Letter grade	Percentage	Letter grade	Percentage
A+	97-100	C+	77-79.9
Α	93-96.9	С	73-76.9
A-	90-92.9	C-	70-72.9
B+	87-89.9	D+	67-69.9
В	83-86.9	D	63-66.9
B-	80-82.9	D-	60-62.9

Course assignment contribute to course grades in the following manner:

Assignment	% of overall grade
1. Participation (multiple assessments)	25
2. Class Prep Prompts (multiple assessments)	25
3. Street Tree Inventory Report	25
4. Group Research Project & Presentation	25
Total	100

Course Schedule and Itinerary

The schedule is subject to limited change in the event of extenuating circumstances. The likelihood of calendar adjustments is higher with more guest speakers, and we have many!

W k	Class Meeting	Торіс	Assignments / Notes
1	8/27	Course introduction	Complete by Thursday: Module 1
	8/29	Defining urban forests, history of urban forests and current trends in land use	readings AND surveys (links in Module 1)
2	9/3	Benefits/Costs of urban forests	Due: Class Prep Prompt
	9/5	Benefits/Costs of urban forests	Participation assessment II: Tree Planting Campaign debate
3	9/10	Sustainable and Resilient Urban Forests	Due: Class Prep Prompt
3	9/12	Sustainable and Resilient Urban Forests	Participation assessment III: Urban Forest SES maps
	9/17	Monitoring data: Top-down / Bottom-up overview	Due: Class Prep Prompt
4	9/19	Monitoring data: Top-down	Guest speakers: Ava Hartman, CanopyBloomington / Stephanie Freeman-Day, ERI
5	9/24	Monitoring data: Bottom-up	Due: Class Prep Prompt Guest speakers: Haskell Smith, Urban Forester, City of Bloomington
	9/26	Monitoring data: Bottom-up	Assignment introductions: Street Tree Inventory Exercise (not due until 10/25) and Group Tree ID Participation assessment (not due until 10/17)
	10/1	Tree biology, morphology, and taxonomy	Due: Class Prep Prompt
6	10/3	Technical Writing Workshop (Undergrads) AND Community Partner visit (Grads)	Participation assessment IV: Technical Writing Workshop & Community Partners interview (Guest speakers in class)
7	10/8	Tree planting, planted tree inventories, survival, growth	Due: Class Prep Prompt Participation assessment V: Tree Planting
	10/10	Tree planting, planted tree inventories, survival, growth	Assignment introduction: Group Research Project
8	10/15	Tree care, management, and risk	Due: Class Prep Prompt Guest speaker (in field): Local arborists
	10/17	Tree care, management, and risk	Due: Class Prep Prompt Participation assessment VI: Group Tree ID (Due by class this date)
9	10/22	Tree care industry	Due: Class Prep Prompt
	10/24	Tree care industry	Guest speakers (in field): Davey Resource Group + Networking Lunch Due by midnight on Friday, 10/25: Street Tree Inventory Report

10	10/29	Governance: National/state/local actors in urban forest management	Due: Class Prep Prompt
	10/31	Governance: Municipal urban forestry and municipal institutions	Guest speaker: Tess Mondello, Indianapolis urban forester Participation assessment VII: Group Research Project Progress
11	11/5	Tree law: Plans, reports, ordinances, legal cases	Due: Class Prep Prompt
	11/7	Tree law: Plans, reports, ordinances, legal cases	Participation assessment VIII: Group discussion of legal cases
12	11/12	Communities and trees 1: Urban tree planting and conservation campaigns	Due: Class Prep Prompt
	11/14	Communities and trees 1: Urban tree planting and conservation campaigns	Guest speakers: KIB Community Forestry / Indiana Forest Alliance staff
13	11/19	Communities and trees 2: Equity and justice	Due: Class Prep Prompt
	11/21	Communities and trees 2: Equity and justice	Participation assessment IX: Redlining mapping
14	12/3	NO CLASS; Indiana Urban Forestry Symposium in Indianapolis	
	12/5	Climate change and urban forests	Due: Class Prep Prompt
15	12/10	In-class work session for research projects; group consultation with Professor	
	12/12	Final group presentations	Due: Group Research Presentation (Graduate students)
16	12/19 (10:20 – 12:20)	Final group presentations	Due: Group Research Presentation (Undergraduate students)

Course Policies

Syllabus / Canvas: You are required to read and understand this syllabus as well as the online course management tool, Canvas. If you do not understand something within the syllabus or on Canvas, speak with the instructor to gain an understanding as these are the media through which course material and assignments are communicated.

Communication: As your instructor, I am always approachable; if you have any concern, question, or problem regarding the course, please see me or email me. I welcome anything you would like to share regarding the course. To verify the identity of all parties involved, all email communication must originate from an IU email account; check the box for Canvas messages to route to my email or I may not see them.

Online Course Materials: As the creator of this course, I hold 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 me.** 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.

Attendance: Attendance, in person OR via Zoom (per caveats below), will be recorded to earn points toward your individual participation grade because attendance is a form of participation. There are LIMITED acceptable reasons to attend class by Zoom including illness/quarantine or professional travel. Zoom participation can only be used 3 times/semester (barring rare circumstances like extended illness). If you need to attend class by Zoom for one of these reasons, you must provide written justification to the TA and Instructor prior to class and you must have your camera on for the entire class period to be considered in attendance. This approach is designed to ensure that you largely attend in person; that when you must attend via Zoom, you are engaged; and so you can comply with the following policy: Don't physically come to class if you have a fever (without fever-reducing medication), are in quarantine, or have reason to quarantine due to exposure to illness. (Related, because our classroom will be crowded, please wear a make when you are ill if you are physically present.)

Late assignments: I will accept late assignments for up to one week after the due date, but your grade will be reduced, generally by 10% per day late if not otherwise arranged in advance with me.

Academic dishonesty: I will not tolerate cheating, plagiarism*, or any other form of academic dishonesty or misconduct. If you have not done so, you should read the IUB *Code of <u>Student Rights. Responsibilities. and Conduct</u> so you will be sure to understand what these terms mean and what penalties can be issued for academic dishonesty. Academic dishonesty can result in a grade of F for the class (an F for academic dishonesty cannot be removed from the transcript). Significant violations of the Code can result in expulsion from the University.*

*"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. (emphasis added).

Al programs, like ChatGPT, are not authoritative sources in my class, so they're not appropriate to cite in your assignments but they can be used for a literature search. However, if you actually use words or ideas from Al programs, you must cite them because content generated by programs like ChatGPT, would be in violation of IU's Rights and

Responsibilities unless you cite the source and use quotation marks (if you take directly from ChatGPT) or cite the source without quotation marks (if the student uses chat's "ideas"). In other words, don't use AI for completing assignments in my class. An important exception but an unnecessary one to take advantage of: A student has not committed plagiarism if the student asks ChatGPT for a literature search – for example, to find three articles on a particular topic (just like the student could use Google Scholar to find three articles on the topic), reads the articles, and cites the articles.

Note Selling: 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.

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.

Behavioral Policies

O'Neill School expectations of civility and professional conduct¹

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 regularly² and to be prepared for class.

¹ These expectations are excerpted from the O'Neill School Honor Code.

² In compliance with this courses' Attendance Policy regarding Covid, Covid symptoms, Covid-related quarantine.

- 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.

Additional information for students

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.

Disability Services for Students: Securing accommodations for a student with disabilities is a responsibility shared by the student, the instructor and the DSS 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://studentaffairs.indiana.edu/student-support/disability-services/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.

Celebrate diversity at IU! Learn and get involved here:

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

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