

## E555 Urban Ecology – Syllabus, sp 2020, 3cr, Revised March 2020 - Red

### **Meeting Schedule and Location:**

Tues – 4-6pm via Zoom and online more TBD

**Exams:** None

### **Instructor:**

Burnell “Burney” C. Fischer, Ph.D., CF, Clinical Professor Emeritus, IUB SPEA  
Senior Research Fellow & Affiliated Faculty (formerly Co-Director/Interim Director) Ostrom Workshop  
Bloomington Urban Forestry Research Group (BUFRG) <https://urbanforestry.indiana.edu/>  
Building #3, Ostrom Workshop, 513 N. Park Ave (note: I do not have an office at SPEA)  
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Burney's 15<sup>th</sup> year at IUB. Previously State Forester/Director, IDNR Division of Forestry (1990-05), Professor/Extension Forester, Purdue University (1977-97) & Assistant Professor, UMass (1974-77). Taught E422/E522 Urban Forest Management (UFM) from 2005-18,, which increased from 18 to 40 students/yr. UFM course graduates have obtain both internships and full-time positions in urban forestry/ecology related employment. **E555 Urban Ecology initiated per master's students request after UFM Sp 2010 and offered F 2010 and again SP 2012, 2014-20.**

Dr. Fischer has been active in urban forestry at local, state and national levels for the past 25+ years. He is Past President of the Indiana Urban Forest Council, served on the Arbor Day Foundation's Tree Campus USA Advisory Committee and a past board member national Alliance for Community Trees (ACTrees) and Keep Indianapolis Beautiful (KIB). He served as chair of the Lafayette IN Tree Commission (2001-04), member Bloomington Tree Commission (2006-10) and IUB Campus Tree Committee (2008-14). Professor Fischer is active in urban forestry research and service at IUB and with the City of Bloomington providing leadership in a variety of initiatives including tree inventories, IUB Tree Campus USA designation and securing urban forestry research/service/teaching grants. He leads the IUB Bloomington Urban Forestry Research Group (BUFRG) (<https://urbanforestry.indiana.edu/>). He received the Arbor Day Foundation's 2013 Frederick Law Olmsted Award, which recognizes an outstanding individual who has had a positive impact on the environment due to their lifelong commitment to tree planting and conservation at a state or regional level. In 2014, the Indiana Urban Forest Council recognized him with their Outstanding Lifetime Achievement Award in promoting the principles of urban forestry in Indiana.

**Secretary:** Jennifer Mitchner [jmitchne@indiana.edu](mailto:jmitchne@indiana.edu)

**Office Hours:** Individual meetings scheduled via email/phone/Zoom whenever needed, please keep me updated!

### **Prospectus:**

The emerging discipline of urban ecology, a subfield of ecology, deals with the interaction of organisms in an urban or urbanizing community and their interaction with that community. With over 50% of the world's population now living in urban or urbanizing areas, and urbanization of the US landscape expected to grow from 3.1% (2000) to 8.1% by 2050 (Nowak 2005), urban ecosystems are becoming a dominate landscape feature. These urban areas are influential well beyond their perceived borders and shape how many people view the built world. Research in urban ecology, urban ecosystems and in urban social-ecological systems (or SES's) is rapidly expanding with an ever broadening array of journals, books and other publications as well as new research centers and collaborative projects. Our task in this course is to begin to sort out this complex situation and help each of us develop personal syntheses for ourselves about the ecology of our cities and their sustainable management.

### **General Course Format and Content:**

This is an elective course and the assumption is that enrolled graduate students are interested in learning about and discussing the topic of urban ecology. Although the course will cover the topic of urban ecology, it will be flexible to allow for individual student exploration into topics of specific interest with regard to urban/urbanizing areas. Overarching these topics will be a set of themes that we will revisit/update weekly (see Themes Folder). In addition, we will monitor current events to enhance the learning experience with real world situations via weekly reviews of articles posted on The Nature of Cities (TNoC) (*Many voices, Greener Cities. Better Cities*) <http://www.thenatureofcities.com/>, Next City (*Inspiring Better Cities*) <http://nextcity.org/> and the Atlantic's CityLab (*Design Transportation Environment Equity Life*) <http://www.citylab.com/> (formerly Atlantic Cities/Place Matters). **Online update: Students can post questions to instructor via email/phone/Canvas chat room/Discussion Boards.**

The course will investigate urban ecology using the proposed Syllabus (**working model, always subject to change!**). This is a discussion-based course, co-designed by the students and instructor to cover a range of topics and themes in the field of urban ecology. Classroom participation will be critical for each student. There will hopefully be several class meetings with in-person or live video conferences with selected researchers, etc. A student team will lead each class meeting; class formats can vary. Each student will prepare a professional book/blog series/other review and brief presentation (mid-semester due date; can relate to your research paper). In addition, each student (or small student team) will prepare a research paper (original research, research literature review, research based blog

suitable for submission &/or research proposal, that might be submitted for funding) on a topic of their choice and give a short oral or poster presentation on their findings at the end of the semester. A possible goal of the research papers is a conference presentation at the Indiana Academy of Science (Ecology or Environmental Science Sections), other conferences/venues, or a possible submission to a newsletter, blog, magazine or journal.

### **Proposed Syllabus (a working model – revised in March for online):**

Reviewed and clarified during the first three class meetings. There are options for us to consider, be prepared to suggest, particularly the insertion of speakers (types, do not worry about specific names) during weeks 4-8 rather than all between weeks 10-14 after spring break.

- 1) Introduction to the Ostrom Workshop, Urban Ecology class and discussing concepts of Urban, Urban Ecology & Urban Ecosystems – Yes, big Week 1, remember we meet just once per week!
  - a. What is urban? How does this relate to the concept of the Anthropocene? See posted articles in Anthropocene Folder if this is a new concept to you.
  - b. Read the following article from Atlantic Cities (now CityLab) “The Rise of Urban Ecology” (see Canvas Assignments Week #1 for this article; the many citations to other articles this is really the interesting stuff) <http://www.citylab.com/weather/2012/11/rise-urban-ecology/4032/>
  - c. Discussion of “In, of and For the City”, a major UE theme
  - d. See Canvas Assignment Folders - Syllabus, Week 1 Readings & Themes and become acquainted with them
  - e. Introduction to Baltimore School of Ecology book
- 2) Urban Ecology & Urban Ecosystems Overview – Burney leads, example for future discussion teams
  - a. See Canvas Week 2 Readings
  - b. We will look back on items from Week 1 as needed
  - c. Themes and future topics will be discussed by the class
  - d. Introduction to Book/Blog Review and Research Paper assignments
- 3) Applying Patch Dynamic to Urban Ecosystems and SES's – read Chapter 3 of Baltimore School of Ecology
  - a. See other Week 3 Readings
  - b. Historic Redlining of Cities, an example of human influenced patches; two case reviews – “Living in the Shade of Injustice” Durham NC (Cooper et al.) & Zoom interview, former student Donovan Moxley’s “Exploring the Ecological Legacy of HOLC Redlining of Indianapolis: 80 years later”
  - c. Decision solidified for topics/themes/teams for Weeks 4-8
- 4-8) TBD – student teams lead discussion each week
- 9) Book/Blog/other Reviews – Presentations by Students; Summary of First Half of Course  
10-14) TBD – **Online Format per CoronaVirus Shutdown of University – topics and student teams have been identified;** Some ideas Listed Below
  - Special theme(s) developed by a Student Discussion Teams
  - Invited Guest Speakers – **via Zoom Conference** – could be urban ecologists, urban planners, researchers
  - Class reading/discussion of a short monograph/book, etc.
  - **Canvas Discussion Boards are primary tool for class participation**

### **Readings, Materials & Canvas:**

A previous class textbook was *Urban Ecosystems: Understanding the Human Environment*, by RA Francis, MA Chadwick. 2013. Routledge, 220 p. After two years students agreed textbook eliminate so that focus is on topics of interest and current literature (suggestion is no articles before 2014).

Special book (loaner paperback copies) for 2020 – *The Baltimore School of Ecology: Space, Scale, and Time for the Study of Cities*. JM Grove, ML Cadenasso, STA Pickett, GE Machlis, WR Burch Jr. Yale, 227p. We will discuss selected chapters; students are encouraged to read more as they like.

The instructor/students will post articles, briefing papers and memos on Canvas (see Canvas info below). The expectation is that reading assignments will be read and students' be knowledgeable of the material. Bring reading questions to class or post ahead of time. Regarding Canvas – We will utilize the following functions to start:

- Announcements – the instructor will post general course updates, internships, job announcements, etc.
- Assignments – Folders for each week's readings (Week 1-14), separate folders for Book Reports, Research Papers and misc. folders as needed. This is the go-to place for the class.
- Chat Room – any questions you have for the instructor/classmates outside of class posted here. I will review this section daily and respond to questions in the Chat Room. It is particularly important that questions on course policies and content be posted by Monday evening so that they can be addressed during class. *Note: Chat Room is an open site for all course registrants.*
- Grades – all classroom attendance/participation and grades promptly posted for your review.
- Syllabus – a listing of all course assignments, etc.
- **Discussion Feature has been implemented and will be used for classroom discussion**
- **Zoom has been added to Canvas**

### **Readings and Homework Assignments:**

Course Calendar (i.e. Reading Assignments) updated weekly during the semester – [Current Update I March 18.](#)

All written assignments typed in the following format: Times New Roman 11-12 font, last name, first name and topic on the top line of the first page, double-spaced, one-inch margins all around, and multi-page assignments stapled. Use appropriate footnotes, charts, tables, graphics, illustrations and citations as needed.

Assignments assigned a given a word/page limit. The instructor will not read beyond the assigned limit. Assignments should be concise, organized and when necessary appropriately supported with relevant literature. Always cite everything you quote directly or paraphrase. Use in-text citations whenever you quote or paraphrase.

Assignments are to be submitted on the specified due date. Late assignments accepted with a penalty of - 33.3%/day, unless we have agreed in advance to an alternative. Genuine emergencies where proper documentation is provided may result in the acceptance of a late assignment and different grade adjustment. If you anticipate a serious conflict that prevents you from completing an assignment, please email the instructor beforehand.

### **Student Progress Memo (1) and End of Course Reflection:**

Students will prepared one progress memo following the 5<sup>th</sup> week of the semester. The purpose of the student progress memo (1-2 pages) is to describe how you are reading/understanding UE, the articles assigned, what questions you are asking yourself, discuss progress on the book review and research paper, and whatever else is on your mind per urban ecology. The progress memo posted at Canvas-Assignments-Progress Memo by 8pm on Sunday February 16, so that the instructor/fellow students can read them before Tuesday's class. Each student will prepare an end-of-the-course reflection submitted after the last class period. More on that later in the semester.

### **Teams leading discussions and Team Briefing Papers:**

Teams of 3/4 students will lead discussion/guest speaker sessions for ten class periods (weeks 4-8, & 10-14). Each student will be a member of 3/4 different teams. The team should clearly identify the weekly topic/theme, the four or more articles to read and develop a briefing paper for each article. Articles are to focus on the primary, peer-reviewed literature, although one review and/or application (urban ecology "for" the city) might fit a particular topic. The articles and briefing papers should be sent to the instructor ([bufische@indiana.edu](mailto:bufische@indiana.edu)) by no later than 5pm Friday of the week before they are to be discussed so that I can post and students can read before the next Tuesday. The briefing paper format (note: this is not a rewrite of the abstract!):

- Complete citation and name of student on top of pager
- Length is 1 page, second page is optional for a figure, etc. ,
- Concise paragraph describing paper's primary purpose/objectives/research question(s),
- Brief, clear paragraph review of how the author(s) meet the purpose/objectives,
- Paragraph or bullet points describing what you learned from the article,
- Closing critique – gaps, clarifications, questions raised but not addressed,
- Finally, 1-2 well written trigger question(s) to help elicit class engagement.

Class discussion leadership notes: Teams can lead the topic discussion and articles any way they choose. The key is to engage the class in discussion; this is not to be a lecture and note-taking format. If special themes develop, such as the "What is Urban" discussion in week one, there may be need for an additional briefing paper or new "Theme" to be developed and distributed afterwards. The "trigger" questions can be used however needed during the session. It is a good idea for the team to have additional (hidden) trigger questions handy to keep things flowing.

### **Book review (1/student):**

Each student will prepare one professional book or other type of review. The book should generally be about urban ecology/urban ecosystems, but I give each student the opportunity to find a book/resource that interests them. Emphasis is on recent book! The review must be between 750-1000 words in length and will be shared with your classmates via Canvas – Assignments – Book Reviews, and a brief class presentation on March 10 (more on this later in the semester). I strongly suggest that you review some standard guidelines and ideas for book reviews by searching "book review guidelines" &/or actually write the review for a specific journal/outlet. I have a selection of books to choose from but they are generally dated, so feel free to select any book that interests you and expands upon your particular area(s) of interest in urban ecology. Some books have related to the Research Paper, but not necessary. Submission justification, one page maximum, of the proposed book you wish to review to the instructor by Friday COB, February 14. Book review due Friday COB, March 6.

### **Research Paper and Presentation (1/student):**

Each student will select a topic in consultation with the instructor to write a research paper (real data) or research literature review or blog series suitable for submission for publication or research proposal or combination thereof. Students have the opportunity to work in small teams (max of 3 team members) if you choose. I will assume that everyone is working individually unless you specifically propose to collaborate with other students. All collaborations

are voluntary – i.e., make sure you have an agreement from your proposed partner(s) before submitting a proposal. Obviously, team projects will be larger in scope than individual projects. A title and pre-proposal (maximum 2 pages) is due to the instructor by Friday COB, April 3 (negotiable date if you need more time is possible). The research paper can be biologically or policy-based depending upon the student's interest and must broadly be within the framework of urban ecology/urban ecosystems. The text of the paper is limited to 12-25 pages and should include all necessary citations, etc. Additional pages for appendices – tables, figures, etc. are allowed. **Each student/team will schedule a brief phone call, Zoom or email exchanges with the instructor during mid-April to review progress of the paper.** An outline of your paper would be most appropriate for this meeting. Final submission due date is Friday COB, May 1. Early submissions are encouraged!

### **Class Professionalism Policy<sup>1</sup>:**

Students are expected to act in a professional manner. Excessive violations of professionalism will result in a significant reduction in the participation portion of the grade for the course, which will lower your grade. Violations of professionalism include, but are not limited to the following:

- Activated cell phones or ipods – they should be stored away during class
  - Reading the newspaper or sleeping during class
  - Arriving late for class or leaving class early (unless agreed upon by instructor beforehand)
  - Accessing email or surfing the web during class; quietly taking notes with a computer is acceptable
  - Working on material for another course during class
  - Exhibiting disrespect for the instructor or classmates
  - Disruptive behavior – e.g. carrying on conversations or being excessively noisy
  - Engaging in any activity that prevents you from fully participating in the class
  - The class period is 2.5 hrs long. There will be breaks, coffee and some snacks. Be prepared to stay for the whole session.
- Please leave the classroom if you must engage in anything other than class activities and return when you can fully participate.

<sup>1</sup>Adapted from Murphy, S. 2006. Surfing in Class, A New Temptation. The ISS Newsletter (July 2006), p 4-5.

### **Attendance & Classroom Participation:**

Informed attendance is required for participation in class discussion. This is a discussion-based class and it only works if all participants are both up-to-date on the readings and willing to participate. I record attendance and evaluate classroom participation weekly. A special note about classroom participation - I have found that SPEA students tend to be great note takers but not so great classroom participants. There are of course exceptions to both of these generalizations. I will gently encourage students to be classroom discussion leaders - be prepared for this experience. The quality of participation will affect your participation grade.

### **Grading:**

An unavoidable evil is that I will grade participation, presentations and submitted papers, and at the end of the course, each student will receive a final grade. There are no quizzes or exams. Remember, my purpose as an instructor is to facilitate learning and the whole experience. All writing assignments count. There are no make-ups and extra credit is not available. My expectation for the distribution of points during the semester is as follows:

Individual Participation (attendance/class discussion-oral and Canvas Discussion)	225 points
Team Led Discussions/Briefing Papers (3 class periods)	225
Book review + presentation	100
<u>Research paper</u>	<u>125</u>
Total	675 points

The semester grading scale is 92-100% = A, 82-92% = B, 72-82% = C, 62-72% = D & <62 = F. The instructor reserves the right to adjust this scale downward as well as to assign +'s and -'s

### **Other Policies & Information: Key references for all IU O'Neill SPEA Students**

Indiana University Code of Student Rights, Responsibilities, and Conduct: <https://studentcode.iu.edu/>

O'Neill SPEA Graduate Policies 2019-20 <https://bulletins.iu.edu/iupui/2019-2020/schools/oneill-spea/policies/graduate.shtml>

O'Neill SPEA Student Honor Code (May 2019)

[https://oneill.indiana.edu/doc/undergraduate/ugrd\\_student\\_honorcode.pdf](https://oneill.indiana.edu/doc/undergraduate/ugrd_student_honorcode.pdf)

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