Syllabus

Suggested Course number: EEDUC 6080
Title: Urban Ecology Field Studies; Implementing Field Research in Schools
Credits: 4
Location: Lesley University, Cambridge, MA
Date: 8am-3pm, July 2-3 & 9-13 + one day in October TBA
Instructors: Susan Rauchwerk, David Morimoto, Lindsey Cotter-Hayes

Course Description
Participants engage in authentic, community-based, urban field research alongside experienced educators and researchers from Lesley University, the Urban Ecology Institute (UEI), Boston College and Loyola Marymount University. Coursework provides both pedagogical and content enrichment for teachers seeking to meet professional and science education standards. Participants learn how to use and access UEI materials and curricula, and develop and implement a unit of study based on their experience in the course.

Participants learn sound scientific observation and sampling techniques that can be implemented with their students. Scientific investigations, field research, lectures, and presentations provide a forum for discussions about pedagogical strategies that promote student learning and enhance community stewardship. This four-credit course is offered in two phases, an intensive eight-day summer institute, followed by on-line unit planning, implementation of the unit, and sharing experiences at a culminating workshop during the school year. To receive credit for this course, participation in both phases is mandatory.

Course Outcomes:
1. Experience and understand the complex ecological relationships and biodiversity of urban ecosystems.
2. Experience and understanding how urban ecosystems function and respond to change.
3. Experience and understand how ecosystems evolve to accommodate urban development.
4. Practice a field-research process, from question development to result presentation.
5. Learn a variety of sampling techniques and conceptual approaches that are used to investigate ecological patterns and processes including data collection and analysis.
6. Develop the expertise and inspiration to teach students the science of ecology.
7. Develop and conduct a school-based field research project with students.
Texts: Readings are assigned daily based on investigations and findings

Recommended Ecology Readings Prior to the summer institute - prepare for the class by reading one of the following suggested background texts in ecology:

Recommended Ecology Readings during the course:


**Recommended Education Articles:**


**Recommended Field Gear:** Students are encouraged to bring sun screen, raincoat and pants, shorts, long pants, hiking shoes, hat, binoculars, hand lens, camera, field notebook, insect repellent, backpack, water bottle, and sturdy shoes/boots/sandals appropriate for walking in variable landscapes. Cotton garden gloves are also useful. Many students find it helpful to have a field guide such as the Audubon Field Guide to New England or specific guides for flora and fauna of New England.
Class meetings: will involve a mix of mini-lectures and discussions on ecological concepts and techniques, daily field trips with sampling activities, and laboratory periods focused on analysis and interpretation of field data and observations. Some of the field exercises are moderately strenuous. Scientific research is by its nature collaborative, and in this small-group mentoring class, we will all collaborate to collect data in a number of field exercises and work to analyze our data. Since field research is unpredictable, it’s unlikely that all of the exercises and analyses will work as intended; because of this unpredictability, grades aren’t based on whether things work perfectly or not, but on how you approach problems and how you adapt to surprises.

Assignments
You will be held responsible for all assignments and must make arrangements with me to make-up an assignment. Each assignment can be found in the course-pack and on the class myLesley site. During our first weekend you will learn how to submit and retrieve assignments electronically.

Assignment Format and Submission Protocol

Your Name date
Assignment Title Page number at bottom right
☑ Use 10-12 pt font, double spaced with 1-1.25” margins on all sides. Any normal font is fine.
☑ You must edit all your assignments for readability, grammar, spelling, and punctuation.
☑ Scan copies of illustrations that accompany work such as student work, photographs or illustrations.
☑ Submit all assignments electronically on or before that date it is due by attaching your assignment in the assignment section of blackboard. (We will review this procedure during our first class meeting).
☑ All documents MUST be saved as a Word file. .doc or .docx is fine. If you use a mac you must save your document as a word for windows file.
☑ When you submit using the assignment tool on Blackboard the correct file name is automatically assigned by Blackboard, and the name that you have given the file is added on at the end. Keep your file name brief; such as last name followed by an abbreviated assignment name (e.g. brown_journal1). I cannot download file names with any symbols *^#$@%+=.
☑ Assignments that do not meet the above criteria will not be accepted.
☑ Late assignments are marked down a minimum of one point per day.

Attendance and Class Participation 20%
Full attendance is required. You are expected to fully engage in every discussion and scientific investigation. You will be working alongside a scientist as their research assistant for five days. This requires that you learn how to use and implement research tools and techniques. Attention to detail is required for accuracy of data collection and analysis.
Science Notebooks

Science notebooks - http://www.sciencenotebooks.org/ are one way classroom teachers can help students develop, practice, and refine their science understanding, while also enhancing reading, writing, mathematics, and communication skills. We will use science notebooks to document what you see, do, try, discover, investigate, find out, and wonder about the research project you participate in during the summer institute. Notebooks will be evaluated on organization, documentation, and analysis. This is NOT a place to reflect upon your feelings about this course.

Your science notebook is a reflection of the ways in which you organize and document your understandings of science phenomena over time. You are expected to organize your thoughts and ideas in ways that make sense to you. Unlike the scripted lab reports you may have experienced in middle or high school, science notebooks allow each student multiple ways in which you can keep track of data and express ideas and understandings. Beyond note taking, you may want to include charts, tables, illustrations, notes, photographs, and samples.

Curriculum Project:

Completion of a field-research curriculum unit that responds to the diverse needs of the classroom and curriculum, embodies current pedagogical theory, and addresses a critical issue within your school or community. It can be an adaptation of an existing curriculum or development of a new curriculum. The unit might respond to a real need in your school or situation. Special attention will be paid to matching curriculum goals and content to instructional strategies, student needs, and learning styles. Projects also will be evaluated according to the creative, varied, and appropriate applications of curricular theories to the development of a curriculum unit. The final project will be submitted in a formal written format that is determined by the student and nature of the project.

The final project should be a unit of study that has meaning and relevance for you. This is an opportunity to create your “vision.” Your unit must represent a COHESIVE collection of lessons that build on the ideas and understandings using field-based research as the basis for explorations and learning. You unit should inspire students to think and grow in new skills and understandings over time. Assessments should provide information that informs the teacher’s expectations and approaches for the next lesson. Lessons should address the needs of ALL learners; anticipate possible outcomes; and suggest possible directions or modifications that address student needs and interests as the topic develops. You are not expected to create lessons or a unit from scratch. It is suggested that you use the UEI curricula as the basis for your unit. All lessons in the unit should be expanded or modified for your students, your setting, and invite student involvement that encourages original thought and the development of ideas. Your written document should include:

- Title page
- Table of contents
- Audience
- Rationale - Why and on what basis are you doing this?
- Unit Goals
Lesson plans in a consistent format across the unit. The lesson plan format you choose must be clear and usable by you (some examples provided in class). Units may have anywhere from 4-10 lesson. You will include an outline of all the lessons. Three lessons must be written in detail AND must have been taught. Your narrative reflection and thoughts about revisions/modifications or extensions to those three lessons must be included. Lessons should include:

- title
- goal(s) and measurable objectives
- Materials – listed and links or copies of all relevant resources included
- Procedure – This must be described/outlined for all of the lessons in the unit, and fleshed out in detail for three. Include relevant links and resources.
- Assessment – Outlined for all, detailed for three. (Detail includes links or copies of assessment assignments and evaluation guidelines or rubrics. Include narrative of how student understandings will be used to inform teaching of the subsequent lesson.)

Reflection of Unit- How do you feel about the unit? What excites you about teaching it? What wonderful ideas does this open up for your students? what questions do you have?

Resources- these must follow APA citation format and may be listed by lesson, or for the unit as a whole- whichever is more useful to you.

Presentation of Student Research Project 30%
This assignment is a product that allows you to share the field-research project you implemented with students. You will present the scientific research project including; sampling tools and techniques; data collection and analysis; outcomes/community impact, AS WELL AS your assessment of student experiences and understandings. The assignment can take a variety of forms including student presentations, a photomontage, video, PowerPoint presentation, an article to be published in a local paper or within your school or district; or submission to one of the many online journal or networks for broad casting. You can engage the audience in an activity or discussion related to your research.

Grading Policy
Attendance and Class Participation 20%
Science Notebooks 20%
Curriculum Project: 30%
Presentation of Student Research Project 30%

Course Schedule on Following Pages
### Monday | July 2 | Day 1

**Morning**
- Welcome, Introductions, Overview (LCH, SR)
  - Time: 45 minutes
  - Room:
- Course Pre-Survey (LCH)
  - Time: 30 minutes
  - Room:
- Introduction to Urban Ecology (ES)
  - Time: 1 hour
  - Room:
- Introduction to Field Journaling (SR)
  - Time: 1 hour
  - Room:

**Afternoon**
- Digital Photography (AL)
  - Time: 2.5 hours
  - Room:

### Tuesday | July 3 | Day 2

**Morning**
- Course Overview (SR)
  - Time: 30 minutes
  - Room:
- Introduction to Blog Assignment (LCH)
  - Time: 30 minutes
  - Room:
- Research Project Overviews (Leaders)
  - Time: 2 hours
  - Room:
- Organizing Data (AL)
  - Time: 1 hour
  - Room:

### Lunch | 12-12:30

### Mon | July 9 | Day 3  Tu | July 10 | Day 4  Wed | July 11 | Day 5  Th | July 12 | Day 6  Fr | July 13 | Day 7

**Morning**
- National Grid Welcome
  - Time: 1 hour
  - Room: theater
- Field Research
- Field Research
- Field Research
- Field Research

**Afternoon**
- Field Research
- Field Research
- Field Research
- Field Research

### Lunch | Field

### Lunch | Field

### Lunch | Field

### Lunch | Field

### Lunch | Celebration

**Afternoon**
- Field Research
- Field Research
- Field Research
- Field Research

- Final Survey
  - Time: 30 minutes
  - Room:
- UEI Programs
- Evaluation
Bibliography:

Education


Science
http://www.cnr.colostate.edu/~anderson/PDF_files/TESTING.pdf
http://www.cnr.colostate.edu/~anderson/PDF_files/Pitfalls.pdf
http://www.cnr.colostate.edu/~anderson/PDF_files/K-LINFO.pdf
Electronic resource: http://lis.wwu.edu/record=b1925120~S0
Mossman MJ, JR Saur, GA Gough, LM Hartman, R Hay. (1998). The wisconsin frog and toad survey home page. Wisconsin Dept. of Natural Resources (Madison) and

Lesley University
For most current version of this syllabus contact the program manager.


**Cell phone and Laptops**

Turn off your cell phones or pagers or set on soundless alert. No texting during class. You are encouraged to bring your laptops to class. The University Hall building is wireless, but all computers connect differently. We will not have time during class to help you connect. I suggest you come to campus before class to test out your laptop connection. For any difficulties you will want to contact the technology Help services at 1-888-MyLesely.
Lesley University and School of Education Policy Statements
Revised August 26, 2011

Academic Integrity Policy
Academic honesty and integrity are essential to the existence and growth of an academic community. Each member of the Lesley community is charged with honoring and upholding the University's policy. Students are full members of the academic community and, as such, are obligated to uphold the University's standards for academic integrity. Students should take an active role in encouraging others to respect these standards, and should become familiar with Lesley's policy. The policy details students' roles and responsibilities, and provides examples of violations (including information about failing to document sources, plagiarism, cheating, fabrication or falsification of data, multiple submissions of work, abuse of academic materials, complicity/unauthorized assistance, lying/tampering/theft, etc.). The complete policy can be found on the Lesley University Web page.

Portfolio Development
School of Education Master’s degree and licensure candidates* are required to develop a program portfolio, comprised of the key assignment from each course in their programs. Through these identified key assignments, students will demonstrate acquisition of both knowledge and skills and will demonstrate professional growth over time. The portfolios will be used for institutional and teacher self-evaluation as well as for review by accrediting agencies. They will also provide evidence that students are meeting required state and professional standards, and will confirm that Lesley’s programs are meeting their stated outcomes.

Students will build their portfolios in one of two ways, depending on their program start dates.

If you began your off-campus or online program after October 25, 2010, or your on-campus program after January 1, 2011:

- You will be required to use MAP (My Assessment Portfolio) and must register for a mandatory, online MAP orientation course that features a tutorial for how to set up a MAP portfolio. Issues related to registration for the orientation course and technical issues related to the use of MAP can be directed to map@lesley.edu

- You must upload the key assignment for each of your courses into your MAP program portfolio as part of the course requirements. Your faculty member will use the rubric that is posted in MAP to assess how effectively you completed the key assignment.

If you began your off-campus or online program before October 25, 2010 or your on-campus program before January 1, 2011:

Lesley University
For most current version of this syllabus contact the program manager.
You, too, must complete a key assignment for each course, but you will submit your assessment electronically directly to the faculty member teaching the course, and not via the MAP system. Your faculty member will give you directions regarding the electronic submission. Like students using MAP, your submitted work will be assessed using the rubric for the key assignment.

*Students enrolled in the Science Online Master’s or the Out Of School Time Master’s Programs are exempt from the portfolio requirement at this time.*

Disability Services for Students

Lesley University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA), and provide documentation of the disability. Eligibility for reasonable accommodations will be based on the documentation provided. If you are a student with a documented disability, or feel that you may have a disability, please contact:

For **on-campus students** with learning disabilities or attention disorders:
Maureen Riley, Director of Academic LD/ADD Services
23 Mellen St., 5th floor, Office 504
617.349.8464 (voice)  617.349.8558 (fax)
mriley@lesley.edu

For **on-campus students** with physical, sensory, or psychiatric disabilities, and **off-campus students** with learning disabilities, attention disorders, or physical, sensory, or psychiatric disabilities:
Laura J. Patey, Coordinator of Disability Services for Students
23 Mellen St., 3rd floor, Office 313
617.349.8194 (voice)  617.349.8544 (TTY)  617.349.8558 (fax)
lpatey@lesley.edu

Attendance Policy

The academic integrity of our programs depends on students attending all scheduled class meetings. Students should discuss with faculty, in advance, any portion of a class meeting they cannot attend. Absence from class may be reflected in the student’s grade. The complete attendance policy may be found [here](#).

Official Format for Student Work

All School of Education students must use APA format for student papers, citations and bibliographies. The [complete SOE policy](#) may be found on the School of Education web page.