

Capstone Seminar: Adaptations to Urban Environments

Biology 475, Virginia Commonwealth University
Fall 2018

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Location: [Removed]

Course Description

Semester course; variable hours. 1-3 credits. Prerequisites: BIOL 300, BIOL 310 and BIOL 317 with minimum grades of C; and senior standing. Enrollment restricted to biology majors. Students read assigned topical papers before class, prepare critical analyses, discuss and debate selected positions.

Course Overview

More than half of the world's human population lives in urban areas, and the United Nations predicts that nearly 90% of the developed world will be urbanized by 2050. As these urban areas continue to grow, it becomes even more important for us to understand how species other than humans respond to these novel ecosystems. Urban ecology is a relatively new but very diverse field. This course will focus on the challenges of urbanization primarily at the organismal level: What are the ways in which species adapt both behaviorally and physiologically to urban environments?

Course Objectives

At the end of this course, students will be able to:

1. Use new foundations and your previous biology education to evaluate current papers in animal evolution and urban biology.
2. Assemble an annotated bibliography that summarizes an evaluated topics covered in class and read outside of class.
3. Lead a productive discussion centered on scientific literature.
4. Hone your skills communicating scientific information to a public audience.

These skills will be achieved primarily through readings and class discussions. As a participant in this course you should have a basic background in science from your introductory courses, a strong interest in developing an understanding of how nature works, and a desire to participate in the learning process. As the instructor, I will give focus to our studies, assist you in attaining your own understanding of the subject, and provide both formal and informal feedback and mentorship. Our roles require that all of us come to class sessions prepared.

Course Structure

This is a discussion-based course, and each week's discussion will center on a topic relevant to urban adaptation. A schedule will be posted on Blackboard.

Grading and Examination

Components of your final grade will be distributed as follows:

<u>Graded Component</u>	<u>Points Available</u>
Discussion Leads	200
Discussion Participation	100
Science News Article	100
Annotated Bibliography	100
Total points available	500 pts

Discussion Leads

Each student will be responsible for leading 2 class discussions with a partner. Dr. Olson will be providing the topics for the first several weeks of class, but the final five paper selection will be up to the discussion leaders (suggestions will be provided).

Discussion Participation

Student attendance is expected at all classes except in the case of illness or personal emergency, and out of respect for myself and your fellow classmates, please be punctual. Absences accompanied by appropriate medical, athletic, or administrative documentation will be considered excused. We are a small group! Ask questions and answer questions. Your participation grade includes organization, attentiveness, communication, preparedness, attention to detail, attitude, diligence, and attendance. I expect that any required readings and preparation be completed prior to the assigned class. Your assignment grade will be updated weekly on Blackboard so you can monitor your progress. At the end of the semester, every unexcused absence will result in a 5 point reduction. Please remember: **JUST SHOWING UP EVERYDAY TO CLASS DOES NOT EQUATE WITH PARTICIPATION!**

Science News Article Project

While biologists are thoroughly trained in how to communicate with other biologists, communicating scientific information to a layperson audience can be a much more daunting task. Yet, one might argue, the negative consequences of poor communication and misinterpretation (see: climate change, vaccinations, etc.) make this an even more important skill to hone. According to a Pew Research Center survey in 2017, 79% of Americans say they get their regular science news from either general news outlets or from scientific magazines, in print or online (Gottfried and Funk, 2017).

This assignment, requires you to communicate scientific information in a way that is accessible to the general public by assuming the role of a scientific journalist. You will pair with a classmate and select a topic relevant to animal physiological ecology that you find especially intriguing – one that will hopefully be of interest to a non-biologist. Using this article as inspiration, you are tasked with composing a feature news article (think National Geographic or Scientific American) and this article will be published on our course's custom science news website.

This project will be completed in four parts across the semester:

1. Examining the style and structure of popular science articles
2. Selecting your topic and peer-reviewed resources
3. Composing an outline and rough draft of your article
4. Producing your final feature article and publishing it on our course website

Details will be provided in a separate document on Blackboard.

Annotated Bibliography

The final written paper will be an annotated bibliography incorporating each paper discussed in class. Please see this link to understand what an annotated bibliography entails: <http://guides.library.cornell.edu/annotatedbibliography>.

Final Grades

Final grades will be assigned based on the following scale (rounded to the nearest whole percentage):

<u>Percent Earned</u>	<u>Equivalent Letter Grade</u>	<u>Equivalent Performance Assessment</u>
90 - 100	A	A range: Outstanding - work that consistently demonstrates distinction
80-89	B	B range: Good – work that demonstrates mastery of subject material
70-79	C	C range: Satisfactory – work that fulfills the essential requirements
60-69	D	D range: Passing – work that falls below the acceptable standard
≤ 59	F	F: Failing – work that is undeserving of credit in the course

Course policies

1. **Attendance is required.** I expect that you are present during class, both physically and mentally. Out of respect for myself and your fellow classmates, please be punctual – repeated tardiness will negatively impact the Participation component of your final grade. Unexcused absences directly impact your learning, disrupt group work, and will be reflected in a participation grade of 0 for that class.

Important note #1: Look NOW at when this course is scheduled to meet. This includes the classes before/after Spring Break, which you are REQUIRED to attend. Talk to your family/friends/whoever else NOW to ensure that you don't make travel arrangements that will make you miss a meeting. "My mom booked my flight without me knowing" is not an acceptable excuse.

Important note #2: I understand that many of you may have professional obligations that may not be scheduled at this time (e.g. job or graduate school interviews). Absence due to professional events should be discussed with me as soon as they appear and not immediately before or after the absence. (For example, emailing me thirty minutes before class telling me that you have a job interview that morning or as you're boarding a flight to a research conference out-of-state will not result in excused absences.)

2. **Late work is not acceptable.** There will be an automatic 10% deduction per day for late assignments, and assignments more than two days late will not be accepted.
3. **Technological difficulties are not acceptable excuses for late work.** This means that you should regularly back up your files, and print out course materials in advance of class meetings. Modern word processing and spreadsheet programs are capable of backing up material every minute if you so desire, so "computer crashing" will never be an excuse for incomplete work.

4. **Cell phones should remain in your bags.** Cell phones can be very distracting to other students and can also challenge your attention. Out of respect for myself and your fellow students, *please turn off and stow your cell phones before class begins*. Phone disruptions will result in a participation penalty.
5. **I will not discuss absences, excuses, special accommodations, or anything else of a personal nature in the presence of other students.** This not only helps to protect a student's privacy, but also assures that any accommodations I provide remain between me and the student they apply to. Please do not be offended if I say, "I can't discuss that right now, let's arrange another time to meet." This is being done for your benefit.

A final note on policies – Please know that these policies are not enforced because I want to make your lives difficult. These policies not only help our class run smoothly and efficiently, but they also help to encourage responsible behavior while promoting the personal and professional growth afforded by the collegiate academic environment. Failure to adhere to the policies above will penalize your participation grade.

Feedback and Communication

I welcome, and will even at times solicit, feedback of any kind. Please feel free to contact me via email, phone, or written correspondence at any time, especially if you find yourself struggling. I am usually able to reply promptly to emails, but I cannot ensure a response outside of normal business hours. Extremely short replies are not meant to be curt – they are usually the result of a voice-dictated cell phone response.

Required University Statement for Syllabus

The required syllabus statements originally included here are maintained by the Office of the Provost and are regularly updated. To prevent the dissemination of information which may no longer be accurate or complete, the full text of the required syllabus statements have been removed from this document.

Students should visit <http://go.vcu.edu/syllabus> and review all syllabus statement information. The full university syllabus statement includes information on safety, registration, the VCU Honor Code, student conduct, withdrawal and more.

Students will be notified of any changes made to the syllabus after the start of class, both verbally and via Blackboard/email.