

ENR 8890.01 Fisheries and Wildlife Science Seminar Spring 2020
(3 credit hours)

Advanced Conservation Physiology

Instructor: Dr. Suzanne Gray

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Office: 420b Kottman Hall

Office Hours: By appointment

Meeting time and place: TBD

Course Description

Animals are increasingly faced with rapid and severe environmental change driven by human activities. How do animals cope with these changes? This graduate seminar course will draw on theory from the relatively new field of conservation physiology as it applies to understanding how animals respond to human-induced environmental change. For example, birds in urban environments and fish in high-boat traffic waters are faced with anthropogenic noise that masks reproductive signals. What behavioral and/or physiological mechanisms are employed to deal with this altered environment? How might these compensatory mechanisms influence population-level processes? Students will be expected to delve into the current, primary literature to explore the responses of animals at the individual level and the consequences of these responses at the population level.

Course Goals: this course will...

1. Explore current literature describing the behavioral and physiological responses of animals to human-induced environmental change.
2. Promote critical thinking about how environmental change influences individuals, and how this translates into population-level consequences.
3. Explore ways in which conservation physiology can be applied to conservation and management initiatives.

Student Learning Outcomes: students will...

1. Develop familiarity with the concepts of conservation physiology.
2. Critically evaluate how conservation physiology could be incorporated into their own research.
3. Improve, through an iterative process of writing a short perspective paper and leading discussions, their writing, reviewing, and presentation skills.

COURSE FORMAT AND EXPECTATIONS

Format: The course will have a discussion/seminar format. We will meet each week for an approximately two to three hour period to discuss a set of topical readings, with each discussion being led by one student. At the beginning of the semester we will review several critical papers in the field of Conservation Physiology and based on the interests of the group we will decide on a set of specific topics for discussion.

Readings: There is no required text book for this course; however, there will be a set of papers from the primary literature assigned for each week (note papers will be chosen by the student leading the discussion). All readings will be made available online through Carmen. The readings are a critical part of the course; therefore, students are expected to come to class prepared to discuss the week's readings in depth. This might mean seeking out additional relevant literature. For a primer on basic physiological principles I suggest the following text:

Principles of Animal Physiology, 3rd Edition, 2008. Moyes and Schulte. Pearson Education, Inc. San Francisco.

Participation: Participation grades will be based on each student's participation in classroom discussions. Regular attendance is a necessary, but insufficient, condition for a passing grade. Reading and thinking about the assigned readings before class are critical for classroom participation. This may involve doing some advance reading into the key principles of physiology if the weekly topic is outside the student's wheelhouse (resources will be provided on Carmen).

Absences: All absences must be approved in advance by contacting the instructor prior to the date you plan to miss (except in the case of emergencies). Unexcused absences will negatively influence your Participation grade.

STUDENT EVALUATION

Participation	40%
Discussion Lead	15%
Perspective Paper	45%
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Total	100%

Grading Scheme

93-100%	A	80-82	B-	66-69	D+
90-92	A-	77-79	C+	60-65	D
87-89	B+	73-76	C	<60	E
83-86	B	70-72	C-		

Participation (40%)

We will meet once per week for approximately two to three hours. The bulk of our meetings will consist of a student-led presentation and discussion of several (two to five) assigned readings chosen by the student leader. It is expected that students will attend all meetings and will come prepared to actively discuss the assigned readings. Preparation for discussions may include bringing a list of questions to class, going beyond the two articles to look up unfamiliar terms or concepts, bringing other articles or information to share with the class, responding to discussion questions, etc.

Discussion Lead (15%)

Each student will be responsible for leading one in-class discussion based on one of the topics we choose as a class at the beginning of the semester. As examples, we may decide to focus on a particular environmental issue and each student will focus on a physiological impact within that framework, or we may choose to discuss a particular taxonomic group and how this group is coping with a suite of environmental issues. To facilitate this, each student will prepare in advance of their presentation day by choosing and distributing two to five papers on their topic. In class, the leader of the discussion should introduce the topic and give sufficient background on to help clarify any major theoretical paradigms and then help to facilitate the discussion of the papers and topic.

The articles chosen by the student and should be submitted electronically to the instructor ***no later than 5:00pm on the Friday*** before their presentation date. The articles will then be posted on Carmen for all students to access. One article *must* be an empirical study from the primary, peer-reviewed literature and be no more than five years old (e.g. publication date no earlier than 2015). The second (and additional) articles could be a review paper, perspective piece, edited book chapter, or other empirical papers. If you would like a second opinion on the appropriateness of your article selections, I will be available to meet outside of class hours to discuss them with you (see “Office Hours”).

Perspective Paper (45%)

According to the journal, *Conservation Physiology*, Perspective pieces are, “Persuasive essays or viewpoints with a particular focus on fostering conceptual, theoretical or practical (e.g., policy, management, conservation, modeling) advances in conservation physiology (typically 2000 to 4000 words)”. The objective of writing a perspective paper is for students to succinctly synthesize a conservation physiology topic (most likely a topic we discuss in class) and consider

how their own area of research could benefit from incorporating this framework. Students should make an appointment to meet with me *no later than February 7th* to discuss their topic. If two or more students, through the course of our discussions, wish to write a single perspective piece, we can discuss this possibility.

Writing any paper is a process and we will spend time in class discussing this process – from question generation, to creating an outline, and both peer reviewing and responding to peer reviews. In general, the following components are important steps in the writing process. **I will provide feedback on all components of this process.**

a) Research and annotated bibliography (5%): In order to form a relevant question or idea around which your paper will be based, it is necessary to explore the current literature on the topic. The annotated bibliography is the first step in taking your topic from an initial idea to an informed question or thesis, through a critical search of the literature. A typical annotated bibliography will consist of a list of citations of the papers read (in alphabetical order) and provide a brief summary (one paragraph ~ 5 sentences) of the major findings of each paper. Including a sentence or two about how the paper relates to your topic is also really helpful. Typically these articles will form the initial reference list for your paper. **Due: Feb. 21**

b) Thesis and outline (10%): As you start to better formulate your ideas, it is useful to succinctly describe the major topic or question to be addressed, then create an outline of the paper (i.e. what is the contextual background from the literature and supporting evidence?). An outline for a perspective piece might look a little different than that of an empirical paper, but typically you need to initially address the question and what novelty your perspective brings to the field, then introduce the supporting evidence and your argument. Close with a section on how to address the issue in future work. Once you have this outline it will be easier to fill in the gaps as you draft the first version of your paper. **Due: March 27th**

c) First Draft (10%): After drafting the first version of your paper, it is important to get feedback. In the process of writing any scientific manuscript, soliciting feedback from your peers at different stages of development is important and can be very helpful in improving the quality of your writing. You will submit a first draft to me so that you can receive and implement constructive feedback before submitting the final manuscript for review. One of your peers will also provide a review of the manuscript. As a first draft, the paper is not expected to be polished; however, a complete document is required (i.e., cover page, summary/abstract, introduction, body of text, conclusion, references cited). **Due: April 17th**

d) Peer Review (5%): The peer review process is integral to the pursuit of rigorous scientific work. It is the final check by experts in the field that the work is original, of sound scientific principle, and meets the standards as developed within a scientific field. You will be assigned

one of your peer's first drafts and will have ~one week to return a review of the article. **Due: April 24th**

e) Final Paper (15%): The final version of your review paper should be a polished draft (that incorporates any suggestions and comments provided on the first draft). Perspective articles tend to vary in form; however, they are always short and you should follow the 2000-4000 word limit given by Conservation Physiology. Your paper should include the following components: cover page, abstract or summary (200 words **max.**), main body of text (2000-4000 words **max.**, not including references, figures, and tables), reference list, figures and/or tables (if they help illustrate a major point). The format of the main text will vary depending on the topic and questions being addressed, but should include sub-sections that help organize the perspective, conclusion, references. At a minimum, your reference list should include 20 peer-reviewed articles; you should not exceed 50 articles cited. **Due: May 1st**

Written Assignments: Format and Submission

All written assignments are to be submitted electronically through Carmen by 11:59 pm on the date that they are due. Written assignments should have 1" margins, 12 pt Times New Roman font, double line spacing, and all pages should be consecutively numbered, including the cover page. Include a cover page that provides your name, name.#, title of the assignment, and the date. In-text citations and reference lists should follow the instructions found in the [Author Guidelines](#) for the journal [Conservation Physiology](#). A single file **saved as a Word document** with your name and assignment title as the file name (e.g. "GRAY_Annotated Bibliography") should be submitted. *There is lots of flexibility in due dates – please just communicate with me if you need more time to complete an assignment.*

SCHEDULE

We will develop a schedule of topics during our first couple of meetings and this will be posted on Carmen. **Note: the below dates have been altered to fit the revised schedule due to the Global Pandemic.* I will allow flexibility in all due dates.

Some important dates to consider:

Feb. 7	Paper topic approved
Feb. 21	Annotated bibliography due
March 9 -13	Spring Break, no class
March 16 – 20	Extended Spring Break to due Global Pandemic, no class
March 27	Outline due
April 17	1 st Draft paper due
April 17	Paper for peer review assigned
April 24	Peer review due
May 1	Final Paper due

Academic Misconduct Statement

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute "Academic Misconduct."

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an "excuse" for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Disability Statement

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.

Take care of yourself

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other, and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact the OSU Counseling and Consultation Services (614-292-5766; www.ccs.osu.edu) for assistance, support, and advocacy.