

Biology 490 Senior Seminar: Sexual Behavior in Animals

Fall 2018

Class information is regularly posted at Desire2Learn.

Course Overview:

Course Description: How is sexual behavior across the animal kingdom shaped by physiology, the physical environment, and social context? We explore these themes through discussions and two forms of science writing (academic and popular) that develop critical thinking and science communication skills. Topics include sexual conflict, courtship, mate choice, mate competition, sexual strategies, cryptic female choice, and sex roles and sex change.

Course Learning Objectives:

- Recognize critical thinking as a process of identifying, analyzing, evaluating, and constructing reasoning in deciding what conclusions to draw or actions to take
- Evaluate and construct arguments through critical thinking processes
- Locate, critically read, synthesize, and discuss primary literature dealing with multiple aspects of sexual behavior in animals and articulate their broader societal impacts
- Demonstrate the ability to write and orally present biological information that is articulate and grammatically correct with properly documented and organized ideas and data, appropriate to the specific audience
- Evaluate your own and others' written and oral communication skills by providing and applying useful feedback

Times: Mondays 2:00-3:50 p.m. in CBB 271

Instructor: Sarah Jane Alger, Ph.D.
Office: TNR 439
Office hours: Wednesdays 2:00 -3:00 p.m. or by appointment
E-mail: salger@uwsp.edu
Phone: 346-2018 (Don't leave voice messages – Better to send an email)

Books and Articles:

Hofmann, Angelika. (2016). Writing in the Biological Sciences, 2nd edition. New York: Oxford University Press.

This is a guide to communicating science to professional audiences. We will use this as a reference when writing and revising our academic review papers.

Bondar, Carin. (2010). The Nature of Human Nature. Lexington: Lulu.com (self-published).

This is a collection of pop-science mini-essays on various animal behavior topics. We will incorporate these fun, 2-page stories into our discussions and use them as examples of science writing geared towards a public audience.

Judson, Olivia. (2003). Dr. Tatiana's Sex Advice to All Creation. London: Vintage Books.

This is a collection of articles written in the form of a sex advice column to a variety of species with some very interesting sex problems. We will incorporate these fun, 3-page articles into our discussions and use them as examples of science writing geared towards a public audience.

Articles form the basis of discussions. They vary in topic, depth and length and include both primary articles and reviews. The reviews also serve as examples for the review paper you will write.

Course Structure, Requirements and Grading:

Briefly, the topics and dates are as follows:*

Date	Topic	Readings*	Assignments*
Sep 10	Course overview and discuss science communication	Handouts (on D2L)	Assigned discussion and writing groups. Pick a paper topic
Sep 17	Demonstration discussion on sexual conflict	1 pop-science article and 2 journal articles	Paper thesis draft due with identification of approach
Sep 24	Writing Workshop 1: Research tools and techniques (in ALB 316)	Writing in the <u>Biological Sciences</u> chapters 4 and 11	Homework problems due
Oct 1	Writing Workshop 2: Developing an argument map and outline (in ALB)	Handouts (on D2L)	Refined paper thesis and several relevant primary, secondary and tertiary sources due
Oct 8	Practice discussion on courtship	2 pop-science articles and 2 journal articles	
Oct 15	Practice discussion on mate choice	2 pop-science articles and 2 journal articles	
Oct 22	Writing Workshop 3: Analyzing and refining a thesis, argument map and outline (in SCI B238 west)	Handouts (on D2L)	Presentation of argument map draft due
Oct 29	Advanced discussion on mate competition and Pop-science Presentations	1 pop-science article and 2 journal articles	
Nov 5	Writing Workshop 4: Integrating and strengthening your argument (in SCI B238 west)	Handouts (on D2L)	Paper argument sections due
Nov 12	Advanced discussion on alternative sexual strategies and Pop-science Presentations	1 pop-science article and 2 journal articles	
Nov 19	Writing Workshop 5: Writing a <i>good</i> rough draft (in SCI B238 west)	Writing in the <u>Biological Sciences</u> chapters 2 and 3	Paper introduction and conclusion due, homework problems due
Nov 26	Writing Workshop 6: The peer review process (in normal classroom) Final argument presentations due	Handouts (on D2L)	Paper manuscripts and final presentations due
Dec 3	Advanced discussion on cryptic female choice and Pop-science Presentations	1 pop-science article and 2 journal articles	Peer reviews due
Dec 10	Advanced discussion on alternative sexual strategies and Pop-science Presentations	1 pop-science article and 2 journal articles	Final papers and responses to editor due

**Note: See the "Detailed Course Schedule and Discussion Topics" handout for details*

Academic Review Paper and Peer Review:

Students will work in groups of three to write a 15-25 page review paper on a topic of their choice within an assigned subject area. At least 12 primary, 3 secondary, and 1 tertiary reference must be used in writing the rough draft. Students will then peer-review a draft by another student group and each reviewer will suggest an additional article to incorporate into the manuscript. Students will write a written response to the peer reviews and complete the final draft of their paper, incorporating at least 4 *additional* sources. The main goals of this assignment are to explore a topic of your choice in depth and communicate what you have learned about that topic. You will also gain skills finding relevant resources, critical thinking, writing with coauthors, and editing.

Note: Because students peer review each other's rough drafts for a grade, **late rough drafts will not be accepted.*

Discussion Leading and Participation:

About half of the classes will take the form of discussions of papers surrounding a common topic and each topic will be covered in two discussions. Everyone is expected to read all papers and comment or pose a question on *each paper*. Discussion leaders of each topic are expected to do a brief oral presentation to introduce and make connections within their topic and to make sure each paper is fully discussed.

Although you will not be expected to master every detail of the primary research articles, everyone should be able to answer the following questions about each:

- 1) What was the hypothesis? Briefly, what was the rationale for the hypothesis?
- 2) Briefly, what were the methods? Were they appropriate to address the hypothesis?
- 3) What were the major results and how did they relate to the hypothesis?
- 4) What was the conclusion? Do you believe the conclusion? Is there an alternative interpretation of the data the authors did not address? What further evidence would you like to see?
- 5) What were the major strengths and weaknesses of the paper?
- 6) How does this paper relate to other papers we've read? How does it relate to other work?

Discussion leaders should additionally be prepared to discuss/explain the following:

- 7) Explain the rationale *in detail*. Identify the claims, evidence for those claims, and connections between the claims.
- 8) What do these animals look like? What is their natural history? How does this study fit in to their natural history?
- 9) How does each technique used in the study generally work?
- 10) How do the results of the paper tie in with the discussion topic?
- 11) How does this paper tie in with the Pop-science presentations so far? (see below)
- 12) How do the results of the paper meet societal needs (for example: basic research, stewardship of biodiversity, human health, entrepreneurial innovation, etc.)?

Note: This preparation may involve the use of outside sources and you are encouraged to prepare for discussion leading with your discussion-leading group.

Pop-Science Communication:

You will write a 1-2 page pop-science (short for "popular science") article that would be appropriate to post online for a general audience high school aged and up. For your topic, you will describe a single primary research paper that relates to your Advanced Discussion Leading topic. You will either find or make accompanying imagery for your article. You will present your article to the class as part of your Advanced Discussion Leading for feedback and your written article will be due that night.

Critical Thinking:

This course is part of a university-wide initiative to improve the teaching of critical thinking across the curriculum. Critical thinking is a process of identifying, analyzing, evaluating, and constructing reasoning in deciding what conclusions to draw or actions to take. Critical thinking abilities help us better understand our world, make better decisions, and are sought out by employers. As a capstone course, critical thinking will be at the heart of everything we do in this class.

Comprehensive Exam:

Satisfactory completion of BIOL 490 courses requires the completion of the Biology Department's comprehensive exam. Test scores are used to compare class averages among various populations of biology majors to assess general student learning. Scores will not be made available to you nor your instructor and will have *no bearing on grades*. However, *your 490 grade will be withheld until the exam is taken*. The exam will take about 60 minutes and will be offered at the following times:

Dec 5 6:00-7:00 p.m. TNR 464

Dec 6 6:00-7:00 p.m. TNR 464

Please register for an exam time on the sign-up sheet with your instructor. If you cannot attend either of these examination times please contact Dr. Dan Graf (dan.graf@uwsp.edu) to schedule an alternative time.

Point Distribution:

Discussion Participation*	12 points (5 discussions X 3 points each; drop the lowest score)
Practice Discussion Leadership	6 points
Advanced Discussion Leadership	12 points
Pop-science Paper	15 points
Writing Workshop Participation*	5 points (6 workshops X 1 point each; drop the lowest score)
Final Argument Presentation	10 points
Academic Paper Draft	15 points
Academic Paper Final	15 points
Peer Review	5 points
Homework	5 points

Total **100 points** (NOTE: Each point is 1% of your grade)

*You may miss up to one discussion *as a participant* (as long as you make arrangements with me prior to the missed class) and one writing workshop (as long as you make arrangements with your writing group prior to the missed class) without penalty.

Letter Grades:

	87-89.9% = B+	77-79.9% = C+	67-69.9% = D+
93-100% = A	83-86.9% = B	73-76.9% = C	60-66.9% = D
90-92.9% = A-	80-82.9% = B-	70-72.9% = C-	0-59.9% = F

Absence Policy and Accommodations:

About half of this class is based on discussions and the other half is based on writing workshops, all of which require your presence and participation. However, a single absence *from a discussion in which you are a participant* (i.e. not a Discussion Leader) will be excused for each student. If you need to miss a discussion in which you are a Discussion Leader, you must reschedule to lead a different discussion topic *prior to that discussion*. Additionally, a single absence *from a writing*

workshop will be excused for each student, provided you make acceptable arrangements with your co-authors. Once your excused absence in a given category has been used up, **an absence or lack of participation in a discussion class or writing workshop will result in a deduction of all associated points.** (Exceptions can be made in extraordinary cases: If you need to be absent for illness or personal reasons, please let me know in advance and I will try to be accommodating. I will keep any requests confidential.)

In compliance with the Americans with Disabilities Act, I will make every effort to honor requests for reasonable accommodations made by individuals with disabilities. If you have a disability and require accommodations, please register with the Disability and Assistive Technology Center (6th floor Learning Resource Center in Albertson Hall) and let me know as soon as possible. Requests for accommodation can be responded to most effectively if I receive the requests early in the semester. Such requests are confidential.

For more information about UWSP's policies with respect to the Americans with Disabilities Act (ADA), check here: <https://www.uwsp.edu/hr/Pages/Americans-with-Disabilities-Act.aspx>

You can also find more information on services provided at: <http://www4.uwsp.edu/special/disability/>

UWSP Community Bill of Rights and Responsibilities:

UWSP values a safe, honest, respectful and inviting learning environment. A set of expectations for students and instructors, known as the Rights and Responsibilities document, is intended to help establish a positive living and learning environment. For more information go to <https://www.uwsp.edu/acadaff/HLCSelfStudy/Community%20Rights%20and%20Responsibilities%202011.pdf>

Academic integrity is central to the mission of higher education in general and UWSP in particular. Academic dishonesty (cheating, plagiarism, etc.) is taken very seriously and will likely result in a failure (zero) for the assignment. For more information, see the UWSP "Student Academic Standards and Disciplinary Procedures" section of the Rights and Responsibilities document, Chapter 14, at the following site:

<https://www.uwsp.edu/acadaff/HLCSelfStudy/Community%20Rights%20and%20Responsibilities%202011.pdf>

Title IX:

Under several federal and state laws and according to several university guidelines, I am required to report acts of a criminal or offensive nature. This includes acts of sexual harassment and assault, bias and hate crimes, illicit drug use, and acts of violence. Any disclosure or description of these incidents – both current and in the past – may be reported to the Dean of Students office (<http://www.uwsp.edu/dos/>) or the local authorities.

Emergency Preparedness:

In the event of a medical emergency, call 911 or use the nearest red emergency phone. Offer assistance if you are trained and willing to do so. Guide emergency responders to the victim.

In the event of a tornado warning, proceed to the lowest level interior room without window exposure or any of the hallways. Avoid wide-span rooms and buildings. For floor plans showing severe weather shelters, see <http://www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.aspx>.

In the event of a fire alarm, evacuate the building in a calm manner. Meet in the nearest parking lot. Notify me or emergency command personnel of any missing individuals.

In the event of an active shooter, your first priority should be to run and escape. Once you are safely out of range, call 911. If you are not confident that you can get out safely, then lock doors, turn off lights, spread out, hide, and remain quiet (turn your phone ringer and vibration off). Look around for potential weapons in case you will need to fight. If an active shooter enters the room and is aware of your presence and/or the presence of others, fight with everything you've got. Follow the instructions of emergency responders when they arrive.

For details on all emergency response plans at UW-Stevens Point, please view the Emergency Management Plan at www.uwsp.edu/rmgt.