

Biology 381: Animal Physiology Syllabus

Fall 2022

Course Overview:

Course Description:

Across taxa, animals face many similar physiological challenges, but have evolved a diversity of approaches to address them. In this course, we will explore what some of those challenges are, some alternative physiological solutions to them, and under what conditions certain solutions are most effective. By the end of this course, you should have a deeper understanding of animal physiology in an ecological context, be better able to comprehend and assess primary research papers, have stronger critical thinking abilities, and be better able to communicate science.

Course Learning Objectives:

- Understand and describe mechanisms of cells, tissues, organs, and organ systems
- Explain how physiological systems are integrated and identify physiological tradeoffs
- Demonstrate proficiency in the methods and philosophy of science, including articulation and application of the Scientific Method, collection and analysis of biological data, and application of professional ethics
- Recognize critical thinking as a process of identifying, analyzing, evaluating, and constructing reasoning in deciding what conclusions to draw or actions to take
- Identify, analyze, evaluate, and construct reasoning through critical thinking processes as applied to topics in animal physiology
- Articulate the application of biological science to meeting the needs of society

Prerequisites: BIOL 101 or BIOL 160 or BIOL 111; CHEM 101 or CHEM 105 or CHEM 117 (or equiv). Does not count for major if BIOL 385 (or equiv) is counted.

Times: Lectures: M/Th: 2:00 – 3:15 p.m. in CCC 213
Labs: Section 1 W: 9:00 – 11:50 a.m. in TNR 253
Section 2 Tu: 11:00 a.m. – 1:50 p.m. in TNR 253
Section 3 W: 2:00 – 4:50 p.m. in TNR 253

Instructor: Sarah Jane Alger (pronounced “Al-ger”), she/her/hers
Office: TNR 439
Office hours: Email me for an appointment
E-mail: salger@uwsp.edu (I generally respond to emails within 24 hours. If you don't hear back from me within 24 hours, contact me again)

Texts: [Animal Physiology](#), 4th Edition by Hill, Wise, and Anderson (2016) is available [for rent in the bookstore](#).

[Biology 381: Animal Physiology Laboratory Manual](#) by Alger (2022) is available [for purchase in the bookstore](#).

Other readings: We will read and discuss several papers over the course of the semester. These are **required** reading and will be posted in *Canvas*. All lab materials will also be posted in *Canvas*.

Key Dates: Exam 1 (on material presented prior to 1st exam): **Th Oct 6**
Exam 2 (on material presented between 1st and 2nd exams): **Th Nov 10**
Exam 3 (on material presented between 2nd and 3rd exams): **Fri Dec 16 2:45 - 4:45 p.m.**
Mini-Final Exam (synthesis across units): **Fri Dec 16 2:45 - 4:45 p.m.**

Point Distribution:

| | |
|-------------------------------|------------|
| Physiology Fundamentals Tests | 50 points |
| Lecture Assignments | 65 points |
| Lab Assignments | 185 points |
| Pop-Science Assignment | 50 points |
| Unit Exam 1 | 100 points |
| Unit Exam 2 | 100 points |
| Unit Exam 3 | 100 points |
| Mini-Final Exam | 50 points |

Total **700 points**

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:

I will do my best to work with you and help you achieve your goals, but I need you to communicate with me to help me do that. Everything associated with this course will be posted in *Canvas* and will have due-dates with times. These due-dates are designed to help you complete your coursework by the time grades are due with some level of balance with the rest of your courses and life. **I will hold you to these deadlines, unless you ask for an extension before the deadline occurs.**

For all of my lectures, I will post companion recorded lectures on *Canvas* (recorded last year). These are not meant to be a substitute for in-person lecture, but rather a learning aid. I will answer student questions and present information differently in class than I do in the videos. If you cannot attend an in-person lecture, I encourage you to get notes from a friend that was at the in-person lecture in addition to watching and taking notes from the corresponding recorded lecture(s). If you cannot attend an in-person lab, we will make arrangements for what assignments you can do to make up the points.

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 Resource Center](#) (room 108 in the Collins Classroom Center (CCC), 715-346-3365, drc@uwsp.edu) 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/Affirmative%20Action/ADA.aspx>. You can also find more information on services provided at: <https://www.uwsp.edu/disability-resource-center/>

Health Policies in the Time of Pandemics:

COVID-19:

Many COVID-19 restrictions have been lifted, both across the state and on UW-Stevens Point campuses. Yet COVID cases continue, so it's important to continue taking precautions. Here are the COVID-19 procedures UW-Stevens Point has in place for fall.

- Face coverings are not required but are encouraged. Consider wearing a mask in crowded indoor spaces and when in close proximity outdoors.
- Please be respectful of individual choices to wear or not wear a face covering, and to those who have a higher risk of complications.
- Masks are required in Student Health Service, UWSP Counseling Center and the Speech, Language and Hearing Clinic.
- Being up-to-date on vaccines is one of the best ways to protect yourself and others from COVID-19. Vaccines are safe, effective, free and strongly encouraged at UW-Stevens Point. You can find a vaccine location at [vaccines.gov](https://www.vaccines.gov).
- Testing - Get tested if you have COVID-19 symptoms or have been exposed to the virus.
 - Students at the Stevens Point campus have easy access to Student Health Service for testing and vaccines. Call 715-346-4646.
 - A limited number of self-administered COVID tests are available for residence hall students at each hall's front desk.
 - Students who live on and off-campus as well as every household in the U.S. may order a third round of free at-home tests.
 - Testing is also available at various [community testing sites](#).
- If you get COVID-19, the Centers for Disease Prevention and Control (CDC) recommends:
 - Isolate at home, separate from others, regardless of vaccination status. Also isolate while awaiting test results.
 - Isolate for at least 5 days, or until symptoms improve.
 - Wear a high-quality, well-fitting mask for 10 days.
 - Learn more about when to [end isolation](#) and when to [stop wearing a mask](#).
 - Notify your instructors or supervisor and your close contacts.
- If you are identified as a close contact or been exposed to COVID-19:
 - Wear a quality, well-fitting face covering for 10 days after exposure. The CDC no longer requires quarantine.
 - Monitor your symptoms.
 - Get tested 5 days after exposure. Test again in 48 hours, or if you develop symptoms in the next 10 days.
- For more information, visit [our COVID website](#). Students with questions may call Student Health Service at 715-346-4646.

Monkeypox:

Monkeypox is a rare disease caused by a virus similar to the smallpox virus. It has been confirmed in Wisconsin, but no cases have been reported in the counties where UW-Stevens Point has facilities. An unexplained rash is among the [symptoms](#). It is spread primarily through

close, physical contact and is less transmissible than COVID-19. While rarely fatal, the recovery period can last several weeks. If you have symptoms, talk to your health care provider. UWSP students may call Student Health Service at 715-346-4646. For more information, including steps to prevent getting monkeypox, see visit [this UWSP site](#), the [CDC](#) or the [Wisconsin Department of Health Services \(DHS\)](#).

Student Recording and Sharing Class Lecture:

Lecture materials and recordings for BIOL 381: Animal Physiology are protected intellectual property at UW-Stevens Point. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation [Regent Policy Document 4-1]. **Students may copy or share lecture materials and recordings only with students in their class the same semester in which they take it.** Students may *not* copy or share lecture materials and recordings outside of the class, including with BIO 381 students from a different semester or posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct.

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 Plans at <https://www3.uwsp.edu/emergency/Pages/emergency-procedures.aspx>.