

# BIOL 381: Animal Physiology

## Spring 2021 Syllabus

**Important Note:** This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check *Canvas* for corrections or updates to the syllabus. Any changes will be clearly noted in a course announcement or through email.

### Course Information

#### Instructor Information

**Instructor:** Sarah Jane Alger, Ph.D.  
**Office:** off-campus this semester  
**Virtual Office Hours:** email for an appointment  
**E-mail:** salger@uwsp.edu

#### Course Information

**Catalog Course Description:** Normal functions of organ systems in wild and domestic vertebrates and invertebrates. Fulfills the physiology requirement for biology, wildlife ecology, captive wildlife, and fisheries and water resources: fisheries and aquatic sciences option. Fulfills the biology requirement for resource management: environmental education and interpretation, resource management: wildlife education, and neuroscience and behavior. 3 hrs lec, 3 hrs lab per wk.

**Detailed 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.

**Credits:** 4

**Prerequisite:** One of the following: BIOL 101, BIOL 111, or BIOL 160; and one of the following: CHEM 101, CHEM 105, or CHEM 117 (or equivalent)

**GEP:** none

**Course times:** online and asynchronous

## Expected Instructor Response Times

- I will try to respond to student emails within 24 hours. If you have not received a reply from me within 24 hours please resend your email.
- I will attempt to grade written work within 1 week.

## Communicate with your Instructor

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that we can help you find a solution.

## Textbook & Course Materials

**Required Text:** Animal Physiology, 4th Edition by Hill, Wise, and Anderson (2016) is available for rent in the bookstore. If you are off-campus, they will ship your textbooks to you for free. For more information, go to their website: <https://www.uwsp.edu/centers/store/Pages/default.aspx>.

**Recommended Texts & 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*.

## Course Learning Outcomes

1. Understand and describe mechanisms of cells, tissues, organs, and organ systems.
2. Explain how physiological systems are integrated and identify physiological tradeoffs.
3. Recognize critical thinking as a process of identifying, analyzing, evaluating, and constructing reasoning in deciding what conclusions to draw or actions to take.
4. Identify, analyze, evaluate, and construct reasoning through critical thinking processes as applied to topics in animal physiology.
5. Articulate the application of biological science to meeting the needs of society.

You will meet the outcomes listed above through a combination of the following activities in this course:

- Attending online lectures, taking notes, and taking participation quizzes
- Applying lecture material to weekly lecture activities
- Participating in weekly lab assignments and discussions
- Completing three unit exams and a cumulative final exam

## Course Structure

This course will be delivered entirely online through the course management system *Canvas*. You will use your UWSP account to login to the course from the [Canvas Login Page](#). If you have not activated your UWSP account, please visit the [Manage Your Account](#) page to do so.

## Attendance

As this is an asynchronous online course, there is no formal attendance assessment. However, deadlines for completion of assignments, as listed in the syllabus schedule must be met. I hope to have live weekly online Question & Answer (Q&A) Sessions, but they will not be required and they will be recorded and posted to *Canvas*.

All UWSP instructors are required to take attendance once during the first eight days of a course and to submit it to the Office of the Registrar. A student is considered present in an online course when they have taken academic action (completing an assignment, posting on a discussion board, taking a quiz, etc.) A student simply logging into the course or clicking on a resource is not sufficient action to determine student presence. Students that are marked absence in a course will be asked to drop it by the Office of the Registrar. If required to drop the course, it is the student's responsibility to officially drop the course through the Registration & Records Office.

## Topic Outline/Schedule

**Important Note:** Refer to the *Canvas* course home page for pertinent information. Activity and assignment details will be explained in detail within each week's corresponding Module. As tasks come due, they will appear in your "to do" list. If you have any questions, please contact your instructor.

Week	Topic(s)	Readings	Activities	Due Date
1 lecture	Introduction and Digestion	Syllabus (pdf); Ch 6	Lectures/Participation questions; <i>Tell Me About Yourself</i> questionnaire; Critical Thinking Quiz 1	Jan 29
1 lab	Comparative Anatomy Lab	Laboratory Introduction; Comparative Anatomy Background (pdf)	Comparative Anatomy Pre-Lab, Lab	Jan 29
2 lecture	Digestion continued and Energy metabolism	Ch 8 pages 189-196; Ch 7	Lectures/Participation questions; Critical Thinking Quiz 2	Feb 5

2 lab	Comparative Anatomy Lab		Comparative Anatomy Lab Discussion and Post-Lab	Feb 5
3 lecture	Thermoregulation	Ch 10	Lectures/Participation questions; PHYSIOLOGY FUNDAMENTALS TESTS DUE	Feb 12
3 lab	Osmoregulation Lab	Osmoregulation Background (pdf)	Osmoregulation Pre-Lab, Lab	Feb 12
4 lecture	Osmoregulation	Ch 28	Lectures/Participation questions	Feb 19
4 lab	Osmoregulation Lab		Osmoregulation Lab Discussion and Post-Lab	Feb 19
5 lecture	Osmoregulation continued	Paper on anadromous fish (pdf)	Anadromous Fish Four Questions; Unit 1 Practice Exam	Feb 26
5 lab	How to Critically Read Scientific Literature Lab	How to Critically Read Scientific Literature Background (pdf)	How to Critically Read Scientific Literature Lab, Lab Discussion	Feb 26
<b>Unit 1 Exam (open all week 5– due following Monday of week 6)</b>				
<b>UNIT 2</b>				
6 lecture	Nervous system cells	Ch 12, Ch 13 pages 337-343	Lectures/Participation questions	Mar 5
6 lab	How to Make a Concept Map Lab	How to Make a Concept Map Background (pdf)	How to Make a Concept Map Lab, Lab Discussion	Mar 5
7 lecture	Sensation	Ch 14	Lectures/Participation questions	Mar 12
7 lab	Sensation Lab	Sensation Background (pdf)	Sensation Pre-Lab, Lab	Mar 12
8 lecture	Sensation continued	Paper on magneto-reception (pdf)	Lectures/Participation questions; Magnetoreception Four Questions	Mar 19
8 lab	Sensation Lab		Sensation Lab Discussion and Post-Lab	Mar 19
Spring Break				

9 lecture	Control of movement	Ch 19, Ch 20	Lectures/Participation questions; Case study	Apr 2
9 lab	Movement Lab	Movement Background (pdf)	Movement Pre-Lab, Lab	Apr 2
10 lecture	Aerobic vs Anaerobic Metabolism and Respiration	Ch 8 (Note you already read Ch 8 pages 189-196), Ch 9	Lectures/Participation questions	Apr 9
10 lab	Movement Lab		Movement Lab Discussion and Post-Lab	Apr 9
11 lecture	Respiration Continued	Ch 22, Ch 23	Lectures/Participation questions; Unit 2 Practice Exam	Apr 16
11 lab	Migration		Migration Concept Map, Discussion	Apr 16
<b>Unit 2 Exam (open all week 11– due following Monday of week 12)</b>				
<b>UNIT 3</b>				
12 lecture	Circulation	Ch 24, Ch 25	Lectures/Participation questions	Apr 23
12 lab	Blood Lab	Blood Background (pdf)	Blood Pre-Lab, Lab	Apr 23
13 lecture	Endocrine Systems and Reproduction	Ch 16, Ch 17	Lectures/Participation questions; Case studies on sex differentiation	Apr 30
13 lab	Blood Lab		Blood Lab Discussion and Post-Lab	Apr 30
14 lecture	Reproduction continued		Critical Thinking Quiz 3	May 7
14 lab	Circulation Lab	Circulation Background (pdf)	Circulation Pre-Lab, Lab	May 7
15 lecture	Reproduction continued	Paper on Hamster Hormones and Behavior (pdf)	Hormones and Behavior Four Questions; Unit 3 Practice Exam	May 14
15 lab	Circulation Lab		Circulation Lab Discussion and Post-Lab	May 14
<b>Unit 3 Exam (open all week 15– due following Monday of Finals Week)</b>				
<b>Final Exam (open all week– due Friday of Finals Week)</b>				


## Technology

### Student Expectations

In this course you will be expected to be able to:

- communicate via email
- complete basic internet searches
- download and upload documents to *Canvas*
- read documents online
- view online videos
- participate in asynchronous online discussions
- complete quizzes/tests online

### Canvas Support

Click on the  button in the global (left) navigation menu and note the options that appear:

Support Options	Explanations
<p><b>Ask Your Instructor a Question</b> Submit a question to your instructor</p>	Use <b>Ask Your Instructor a Question</b> sparingly; technical questions are best reserved for <i>Canvas</i> personnel and help as detailed below.
<p><b>Chat with Canvas Support (Student)</b> Live Chat with Canvas Support 24x7!</p>	<b>Chatting with Canvas Support (Student)</b> will initiate a <i>text chat</i> with <i>Canvas</i> support. Response can be qualified with severity level.
<p><b>Contact Canvas Support via email</b> Canvas support will email a response</p>	<b>Contacting Canvas Support via email</b> will allow you to explain in detail or even upload a screenshot to show your particular difficulty.
<p><b>Contact Canvas Support via phone</b> Find the phone number for your institution</p>	Calling the <i>Canvas</i> number will let <i>Canvas</i> know that you're from UWSP; phone option is available 24/7.
<p><b>Search the Canvas Guides</b> Find answers to common questions</p>	<b>Searching the <a href="#">Canvas guides</a></b> connects you to documents that are searchable by issue. You may also opt for <a href="#">Canvas video guides</a> .
<p><b>Submit a Feature Idea</b> Have an idea to improve Canvas?</p>	If you have an idea for <i>Canvas</i> that might make instructions or navigation easier, feel free to offer your thoughts through this <b>Submit a Feature Idea</b> avenue.

*All options are available 24/7; however, if you opt to email your instructor, she may not be available immediately.*

- Self-train on *Canvas* through the [Self-enrolling/paced \*Canvas\* training course](#)

## Course Technology Requirements

- View this website to see [minimum recommended computer and internet configurations for \*Canvas\*](#).
- You will also need access to the following tools to participate in this course.
  - o webcam
  - o microphone
  - o printer
  - o a stable internet connection (don't rely on cellular)

## Technology Support

- Visit with a [Student Technology Tutor](#)
- Seek assistance from the [IT Service Desk](#) (Formerly HELP Desk)
  - o IT Service Desk Phone: 715-346-4357 (HELP)
  - o IT Service Desk Email: [techhelp@uwsp.edu](mailto:techhelp@uwsp.edu)

## Grading Policies

### Participation

Students are expected to participate in all online activities as listed on the course calendar. Participation points will take the forms of practice quizzes, activities, lab assignments, and discussions.

### Completing Assignments

**All assignments for this course will be submitted electronically through *Canvas* unless otherwise instructed.** Assignments must be submitted by the given deadline or special permission must be requested from instructor *before the due date*.

All discussion assignments must be completed by the assignment due date and time. Late or missing discussion assignments will affect the student's grade.

### Graded Course Activities

Click the **Assignments** link in *Canvas* to access assignment listing, categories and weights as applicable (not all future assignments are listed). Click the **Syllabus** link to see a chronological listing of assignments. Click the **Grades** link to see current grades. Overall assignments and accompanying points are listed below:

<b>Description</b>	<b>Points</b>
Physiology Fundamentals Tests	25
Lecture Participation	235
Lab Assignments	140
Unit Exam 1	100
Unit Exam 2	100
Unit Exam 3	100
Final Exam	100
<b>Total Points Possible</b>	<b>800</b>

## Letter Grade Assignment

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

<b>Letter Grade</b>	<b>Percentage</b>
A	93-100%
A-	90-92.9%
B+	87-89.9%
B	83-86.9%
B-	80-82.9%
C+	77-79.9%
C	73-76.9%
C-	70-72.9%
D+	67-69.9%
D	60-66.9%
F	0-59.9%

## Viewing Grades in *Canvas*

Points you receive for graded activities will be posted to Grades. Click on the Grades link in *Canvas* to view your points.

## Help Resources

### Tutoring

The Tutoring-Learning Center (TLC) offers FREE virtual tutoring to support you in your biology classes. The tutors are UWSP students who have done well in their classes and who are here to share their successful study habits and biology content knowledge to help others succeed. Discussing biological concepts and processes together clarifies and solidifies knowledge, and the tutors are eager to study with you. The TLC will offer two main forms of biology tutoring during Spring 2021:



- **Drop-In Tutoring.** Tutors are waiting in a Zoom room where students can “drop-in” for assistance. No appointment or registration is required and attendance is flexible. The schedule and Zoom links can be found here: <http://www.uwsp.edu/tlc/Pages/dropInTutoring.aspx>.
- **One-on-One Tutoring.** Tutors are available for weekly, recurring appointments. Weekly attendance is required, as this service is designed for long-term assistance. To sign up, students can submit a request form through the TLC webpage: <https://www.uwsp.edu/tlc/Pages/Mathandscischedules.aspx>. Appointments are made based upon tutor availability – we cannot guarantee that every student will be matched with a tutor. One-on-One Tutoring is FREE for all UWSP students during Spring 2021!

## Study Buddies

For those of you looking to connect with other students in the course for study groups, the Navigate student app has a feature called Study Buddies. Here, you can find a list of other students who have indicated they are interested in forming a study group. If you are the first, you will be sent notifications when other students join. You can select who you want to connect with and can leave the group at any time.

Additionally, the Navigate student app can help you with the following:

- Schedule appointments
- Remove Holds from your account
- Find important resources
- Learn of key dates and important to-dos on campus
- View your class schedule with walking instructions to each building

**Accessing the Navigate student app:** For students who have already downloaded the Navigate smart phone app, choose the Study Buddies icon, and a full list of your courses will appear. Each section shows how many buddies are in the group. The free Navigate app is available to download from any mobile operating system. For students without a smart device, a desktop version of the app is available here: <https://uwsp.navigate.eab.com/app>

### Other resources:

Advising	Safety and Support	Health
<ul style="list-style-type: none"> <li>• Academic and Career Advising Center, 320 Albertson Hall, ext 3226</li> <li>• Navigate app</li> </ul>	<ul style="list-style-type: none"> <li>• Dean of Students Office, 212 Old Main, ext. 2611</li> </ul>	<ul style="list-style-type: none"> <li>• Counseling Center, Delzell Hall, ext. 3553.</li> <li>• Health Care, Delzell Hall, ext. 4646</li> </ul>

## Other Policies

### Academic Honesty Policy & Procedures

#### Student Academic Disciplinary Procedures

##### UWSP 14.01 Statement of principles

The board of regents, administrators, faculty, academic staff and students of the university of Wisconsin system believe that academic honesty and integrity are fundamental to the mission of higher education and of the university of Wisconsin system. The university has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others' academic endeavors. Students who violate these standards must be confronted and must accept the consequences of their actions.

##### UWSP 14.03 Academic misconduct subject to disciplinary action.

(1) Academic misconduct is an act in which a student:

- (a) Seeks to claim credit for the work or efforts of another without authorization or citation;
- (b) Uses unauthorized materials or fabricated data in any academic exercise;
- (c) Forges or falsifies academic documents or records;
- (d) Intentionally impedes or damages the academic work of others;
- (e) Engages in conduct aimed at making false representation of a student's academic performance; or
- (f) Assists other students in any of these acts.

(2) Examples of academic misconduct include, but are not limited to: cheating on an examination; collaborating with others in work to be presented, contrary to the stated rules of the course; submitting a paper or assignment as one's own work when a part or all of the paper or assignment is the work of another; submitting a paper or assignment that contains ideas or research of others without appropriately identifying the sources of those ideas; stealing examinations or course materials; submitting, if contrary to the rules of a course, work previously presented in another course; tampering with the laboratory experiment or computer program of another student; knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed.

### Commit to Integrity

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom.

## Confidentiality

Learning requires risk-taking and sharing ideas. Please keep your classmates' ideas and experiences confidential outside the classroom unless permission has been granted to share them.

## Copyright infringement

This is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act. Each year students violate these laws and campus policies, putting themselves at risk of federal prosecution. For more information about what to expect if you are caught, or to take preventive measures to keep your computing device clean, visit our [copyright page](#).

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 not copy or share lecture materials and recordings outside of class, including 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.

## Netiquette Guidelines

Netiquette is a set of rules for behaving properly online. Your instructor and fellow students wish to foster a safe online learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Working as a community of learners, we can build a polite and respectful course community.

The following netiquette tips will enhance the learning experience for everyone in the course:

- Do not dominate any discussion.
- Give other students the opportunity to join in the discussion.
- Do not use offensive language. Present ideas appropriately.
- Be cautious in using Internet language. For example, do not capitalize all letters since this suggests shouting.

- Popular emoticons such as 😊 or / can be helpful to convey your tone but do not overdo or overuse them.
- Avoid using vernacular and/or slang language. This could possibly lead to misinterpretation.
- Never make fun of someone's ability to read or write.
- Share tips with other students.
- Keep an "open-mind" and be willing to express even your minority opinion. Minority opinions have to be respected.
- Think and edit before you push the "Send" button.
- Do not hesitate to ask for feedback.
- Using humor is acceptable

### **Incomplete Policy**

Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if conditions are previously agreed to *in writing* by both the student and the instructor prior to grade submission.

### **Dropping UWSP Courses**

It is the student's responsibility to understand when they need to consider unenrolling from a course. Refer to the UWSP [Academic Calendar](#) for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. Serious and compelling reasons includes: (1) documented and significant change in work hours, leaving student unable to attend class, or (2) documented and severe physical/mental illness/injury to the student or student's family.

### **Equal Access for Students with Disabilities**

UW-Stevens Point will modify academic program requirements as necessary to ensure that they do not discriminate against qualified applicants or students with disabilities. The modifications should not affect the substance of educational programs or compromise academic standards; nor should they intrude upon academic freedom. Examinations or other procedures used for evaluating students' academic achievements may be adapted. The results of such evaluation must demonstrate the student's achievement in the academic activity, rather than describe his/her disability.

*If modifications are required due to a disability, please inform the instructor and contact the [Disability and Assistive Technology Center](#) to complete an Accommodations Request form. Phone: 346-3365 or Room 609 Albertson Hall.*

### **FERPA**

The [Family Educational Rights and Privacy Act](#) (FERPA) provides students with a right to protect, review, and correct their student records. Staff of the university with a clear *educational need to know* may also have to access to

certain student records. Exceptions to the law include parental notification in cases of alcohol or drug use, and in case of a health or safety concern. FERPA also permits a school to disclose personally identifiable information from a student's education records, without consent, to another school in which the student seeks or intends to enroll.

## **Inclusivity Statement**

It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

If you have experienced a bias incident (an act of conduct, speech, or expression to which a bias motive is evident as a contributing factor regardless of whether the act is criminal) at UWSP, you have the right to report it using this [link](#). You may also contact the Dean of Students office directly at [dos@uwsp.edu](mailto:dos@uwsp.edu).

## **Religious Beliefs Accommodation**

It is UW System policy ([UWS 22](#)) to reasonably accommodate your sincerely held religious beliefs with respect to all examinations and other academic requirements.

You will be permitted to make up an exam or other academic requirement at another time or by an alternative method, without any prejudicial effect, if:

- There is a scheduling conflict between your sincerely held religious beliefs and taking the exam or meeting the academic requirements; and
- You have notified your instructor within the first three weeks of the beginning of classes (first week of summer or interim courses) of the specific days or dates that you will request relief from an examination or academic requirement.
- Your instructor will accept the sincerity of your religious beliefs at face value and keep your request confidential.
- Your instructor will schedule a make-up exam or requirement before or after the regularly scheduled exam or requirement.
- You may file any complaints regarding compliance with this policy in the Equity and Affirmative Action Office.

## **Title IX**

UW-Stevens Point is committed to fostering a safe, productive learning environment. Title IX and institutional policy prohibit discrimination on the

basis of sex, which includes harassment, domestic and dating violence, sexual assault, and stalking. In the event that you choose to disclose information about having survived sexual violence, including harassment, rape, sexual assault, dating violence, domestic violence, or stalking, and specify that this violence occurred while a student at UWSP, federal and state laws mandate that I, as your instructor, notify the Title IX Coordinator/Office of the Dean of Students.

Please see the information on the [Dean of Students webpage](#) for information on making confidential reports of misconduct or interpersonal violence, as well as campus and community resources available to students. For more information see the [Title IX page](#).