

AnSc 3702 Applied Avian Physiology

Instructors: Dr. Greg Fraley, Purdue University, gfraley@purdue.edu
Dr. Dawn Koltes, Iowa State University, delkins@iastate.edu

Nina Wilson, TA

Lecture: Monday - Friday: 8:00 – 12:00 pm, 365 Haecker Hall
Animal Barn: Monday - Friday: 1:00 - 5:00 pm, Veterinary Teaching Barn
1907 Carter Ave, St Paul, MN 55108
Laboratory: 425 Haecker Hall

Student-Instructor Contact hours: This is a two-week course: June 1 through June 12, 2026. The total student-instructor contact hours are approximately 90 hours.

Course Description: Applied Avian Physiology is an intensive 3-credit lecture and laboratory course designed to introduce industry-relevant aspects of avian physiology with emphasis on behavior, neurology, muscle, cardiovascular, immunology, digestive, endocrinology, and reproductive systems for egg and meat-producing birds.

Learning Outcomes: At the completion of this course, students should be able to:

1. Describe the major functions and processes associated with the behavior, nervous, muscular, cardiovascular, immune, digestive, endocrine, and reproductive systems.
2. Describe physiological processes that are unique to avian species and that provide challenges and opportunities for housing and management in the poultry industry.
3. Critically evaluate and communicate both verbally and in writing scientific research that integrates physiological concepts discussed in class.

Grading: Your final grade for this course is calculated from a total of 430 points:

Quiz 1	50 points
Quiz 2	50 points
Quiz 3	50 points
Quiz 4	50 points
Group Debate	100 points
Debate team evaluation	15 points
Lab Notebook	100 points (12 pts/lab + 4 pts for completion)
1-pg summary of debate topic	15 points

Final grades are assigned as follows:

430 - 400 points
A- 399 - 387 points
B+ 386 - 374 points

B.	373 - 357 points
B-	356 - 344 points
C+	343 - 331 points
C.	330 - 314 points
C-	313 - 301 points
D+	300 - 288 points
D.	287 - 271 points
D-	270 – 258 points
F	< 257 points

Course Schedule: ***Note: Locations are subject to change***

Date	Topic	Location	Instructor	Assignment
6/1 AM	Intro to Physiology: Cardiovascular System	365 HH	Dr. Koltes	
6/1 PM	Biosecurity; Bird handling; Stress	Vet Teaching Barn	Dr. Koltes	
6/2 AM	Blood Collection/blood smears	Vet Teaching Barn/425 HH	Dr. Koltes	
6/2 PM	Immune System	365 HH	Dr. Koltes	
6/3 AM	Digestive System	365 HH	Dr. Koltes	
6/3 PM	Necropsy	Vet Teaching Barn	Dr. Koltes	Quiz 1
6/4 AM	Endocrine System	365 HH	Dr. Koltes	
6/4 PM	Corticosterone Assay	425 HH	Dr. Koltes	
6/5 AM	Respiratory Systems and Acid/base	365 HH	Dr. Koltes	
6/5 PM	One-on-One Debate topic	365 HH	Dr. Koltes	Quiz 2; 1 page debate topic; Laboratory reports due
6/8 AM	Glucoprivic feeding Blood glucose	Vet Teaching Barn	Dr. Fraley & Nina Wilson	
6/8 PM	Nervous system	365 HH	Dr. Fraley	
6/9 AM	Insulin effects on tonic immobility	Vet Teaching Barn	Dr. Fraley & Nina Wilson	

6/9 PM	Welfare	365 HH	Dr. Fraley	
6/10 AM	Glucose response curve	Vet Teaching Barn	Dr. Fraley & Nina Wilson	
6/10 PM	Muscle/skeletal/Ca balance	365 HH	Dr. Fraley	Quiz 3
6/11 AM	Glucoprivic feeding Blood glucose	Vet Teaching Barn	Dr. Fraley & Nina Wilson	
6/11 PM	Reproduction	365 HH	Dr. Fraley	
6/12 AM	Dissection & Quiz	Vet Teaching Barn	Dr. Fraley & Nina Wilson	Quiz 4
6/13 PM	Student Debates	365 HH	Drs. Fraley, Koltes, and Nina Wilson	Laboratory reports due

Classroom expectations:

- *Lecture:* Will be delivered in person during the morning session from 8:00 am to 12:00 pm. We will meet at 365 HH unless otherwise instructed.
- *Laboratory:* Will be held in Veterinary Teaching Barn or 425 HH from 1:00-5:00 pm. From time to time, we will be meeting at the Poultry Farm. These labs will be announced in advance, and students are expected to have their own ride or a ride-share to the farm.
- *Attendance:* Full participation is not only expected but required. Late arrival or early departure is disruptive and disrespectful to the instructor and peers and will result in the loss of ALL points for that section. This includes the use of electronic devices outside of designated times.
- *Missing or late assignments:* Missed in-class evaluations (quizzes and exams) cannot be made up, and students will receive a zero. Missed materials may be made up only for sponsored activities. The student must provide signed, official documentation of the sponsored event or forfeit all points for the missed class time. If you have an emergency, you must email the instructor before class or lab begins. Late work is not accepted and will receive a zero.
- *Downloading video and material:* Material used in the instruction of this course is the property of the instructor, and posting this material on other websites (e.g., Studocu, Blue Study, Course Hero) is a violation of university policies.
- *Quizzes and Exams:* For quizzes and exams that will be given in this course, it is expected that students will adhere to all academic standards outlined by the instructors.

Lab protocols:

- *Photography:* Cell phone use or photography during lab is strictly prohibited. Any use of cell phones for any purpose outside of specific times will result in the student's removal and the forfeiture of all points for that day. Repeated violations of this could result in dismissal from the program.
- *Dress code:* Clean, close-toed shoes and long pants. We will be working with poultry in the lab sections, so please be mindful that you may get dirty. Additionally, you will be required to wear 2 forms of facial coverings. A plastic face shield will be provided in the first lab class.
- *Biosecurity:* The ISU poultry farm maintains a strict biosecurity policy of 72 hours without bird and swine contact to enter the research facilities; this includes commercial, research, hobby, or pet birds that would interfere with compliance with the biosecurity policy. Please let ALL instructors know of any potential conflicts with this policy as soon as possible.
- *Transportation:* Transportation will NOT be provided from Kildee Hall to the Iowa State University poultry farm.

Expectations: Class participation is an important aspect of active learning and directly benefits the student and their peers. The best way to get the most out of this class is to participate, ask questions, and network with your peers and guest speakers. The poultry industry is small and offers many job opportunities. As Poultry Science Departments and classes are disappearing across the country, this class is an excellent way to get your foot in the door to discover an interest you didn't know you had or also help you find what you do not want to do for a career. When Canvas or any online/ email option is used to submit classwork, it is the student's sole responsibility to ensure that documents are submitted on time and in a readable format. Any malfunction is the student's responsibility, and students must clearly indicate that the final form has been submitted when submitting via email.

Biosecurity

There should be absolutely no contact with poultry, swine, or any avian species for a minimum of 72 hours prior to farm visits. Students with pet birds need to make arrangements for the duration of the rotation. Students who fail to follow biosecurity protocols will be asked to be excused from laboratory activities.

Cell Phone Policy

Students are expected not to use their cell phones during class or lab work, except during a break period. Cell phone use is extremely distracting, not only for the instructor but other classmates as well. COE is taking a strong stance on cell phone usage. If a student is found using a cellphone during class, the student will receive a verbal warning from the instructor. If the student is found to be using a cellphone for the second time, the COE administrative team will be notified, and appropriate action will be taken. If you have a scheduled call to make or answer, please alert the instructor in advance.

Scholastic Dishonesty

You are expected to do your own academic work and cite sources as necessary. Failing

to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, the student may be given an "F" or an "N" for the course and may face additional sanctions from the University. For additional information, please see: <http://policy.umn.edu/education/instructorresp>. The Office for Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: <https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-dishonesty>. If you have additional questions, please clarify them with your course instructor. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class, e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

Disability Accommodation

The University of Minnesota views disability as an important aspect of diversity and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you have, a disability in any area such as mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities - [612.626.1333](tel:612.626.1333)) to arrange a confidential discussion regarding equitable access and reasonable accommodations.
- Students with short-term disabilities, such as a broken arm, **can** often work with instructors to **minimize** classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above.
- If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact your instructor early in the semester to review how the accommodations will be applied in the course.
- If you are registered with the DRC and have questions or concerns about your accommodations, please contact your (access consultant/disability specialist).
- Additional information is available on the DRC website (UM Twin Cities - <https://diversity.umn.edu/disability/>) or by e-mail (UM Twin Cities - drc@umn.edu) with questions.

Sexual Harassment

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic

performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy:

https://regents.umn.edu/sites/regents.umn.edu/files/policies/Sexual_Harassment_Sexual_Assault_Stalking_Relationship_Violence.pdf

Equity, Diversity, Equal Opportunity, and Affirmative Action

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult the Board of Regents Policy:

http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf

Mental Health and Stress Management

As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating, and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website:

<http://www.mentalhealth.umn.edu>.

Academic Freedom and Responsibility: *for courses that do not involve students in research*

- Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. *
- Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost. *[Customize with names and contact information as appropriate for the course/college/campus.]*
- *Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".*

Unforeseen Circumstances and Adaptation of the Syllabus

Note: Information in the syllabus is subject to change. Changes will be announced in class, posted on the course site on Canvas, and/or emailed to students.