Avian Physiology 503
2019 Syllabus

WEEK 1
May 27 – 31

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WEEK 2
June 3 - 7

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Office Hours: Schedule an individual meeting with each instructor as needed.

Wednesday speakers: Each Wednesday in the late afternoon we will meet an industry representative. Come prepared to enjoy the food, get to know each other, ask questions, discuss, and participate! Specific details will be announced during class.

Course Description:

AnSci 503 is a 3-credit intensive lecture and laboratory course designed to introduce you to aspects of avian physiology with particular emphasis on systems and functions related to both egg and meat production including integumentary, musculoskeletal, circulation, respiration, excretion, neurology, digestion, immunology, endocrinology, and reproductive physiology. Our main objective is to provide you with both theoretical (lecture) and applied (laboratory) experiences. In addition to lecture, you will have multiple opportunities to work with live birds, participate in the design and execution of experiments, collect and analyze data, and appreciate the individual variation that is observed in the biology among animals.

Learning Outcomes	1. Understand and appreciate: a) the functional mechanisms of birds including the physiology of body systems and tissues; b) the anatomy and histology of avian tissues; and c) the physiological and anatomical differences between avians and mammals 2. Identify abnormal physiological mechanisms that impact avian health 3. Critically evaluate information sources for scientific content and accuracy 4. Demonstrate qualitative and analytical skills 5. Effectively communicate principles of physiology both verbally and in writing

Exams and quizzes:

One quiz and one exam *each week* (Wednesday and Friday, respectively). Group presentations will be given during the afternoon of the second Friday.

Grading:

Lecture exams: 2 @ 150 points each	300 points
Quizzes: 2 @ 50 points each	100 points
Group presentation on an industry issue 1 @ 100 points	100 points
Presentation team evaluation	20 points
Lab participation	20 points
Total:	540 points

*Examples of group presentation topics: physiological effects on poultry that are beak trimmed, dubbed, given restricted space allowance, or subjected to molting. Other examples include physiological effects of colored light on any species of breeder or watering systems for ducks.

Attendance Policy and Make-up Exams:

Regular attendance is expected of all students. Unexcused absence will require that additional assignments are completed or an additional exam is taken (see instructor). If students are going to miss an exam, prior notice must be given. An alternative arrangement needs to be agreed upon prior to the scheduled exam. A grade of zero will be given for unexcused absences during an exam period.

How Credit Hours are met by the Course

The credit standard for this course is met by an expectation of a total of 135 hours of student engagement over the course of 2 weeks with the course learning activities, which include regular scheduled lecture session (40 hours), scheduled lab sessions (40 hours), review and study of lecture material (20 hours), review and study of lab material (20 hours) and work on team presentation outside of class (15 hours).

AS 503 Grading Scheme

The following is the initial basis for determining your grade. You are guaranteed at least this grade but your grade could end up higher (better) after the instructors review the final results. For example, the bottom A might end up being less than 93%. The letter grading scheme is what is used at UW-Madison.

Grade	Percentage of Total Points
A	> 93%
AB	88 - 92.9%
B	83 – 87.9%
BC	77 – 82.9%
C	65 – 76%
D	55 – 64.9%
F	< 55%

A detailed course schedule and grades will appear in Canvas, the UW learning management tool. Students get access with UW login.

Tentative Class Schedule appears below – May change at instructor discretion.

Week 1

Monday 27	Tuesday 28	Wednesday 29	Thursday 30	Friday 31
MORNING LECTURE in 212 Animal Sciences Building 8:00 AM - noon				
Yuko Sato • Introduction • Integument • Skeleton • Muscles	**Yuko Sato** • Immune system and lymphatics • Vaccines • Special Senses	**Yuko Sato** • Cardio vascular system and respiration • Renal and acid-base	**Yuko Sato** • Renal Acid-base conclusion • Digestion	**Yuko Sato-Proctor** • Review 8:00-8:30 • **Exam 1** 8:30-10:00 **Yuko Sato** • Calcium metabolism • Thermoregulation
AFTERNOON LABORATORY in 128 Animal Sciences Building 1:00 PM – 5:00 PM				
John Parrish **Yuko Sato** • Introduction • Details on team presentation • Safe laboratory procedures • Bird handling (Poultry Res. Lab.) • Anatomy (whole chicken carcass)	**John Parrish** **Yuko Sato** • Blood collection • Euthanasia with CO_2 • Injection techniques • Anatomy broiler chick necropsy	**John Parrish** **Yuko Sato** **QUIZ 1** 1:00-1:45 Lecture room 212 • Blood collection ➢ Blood smear for differential WBC ➢ Hematocrit ➢ RBC and/or WBC count	**John Parrish** **Yuko Sato** • Calorimetry • Complete WBC counts if needed • Review- Quiz Bowl • Work on team presentation	**John Parrish** **Yuko Sato** • Pullorum testing • Analyze metabolism data if possible • Chick quality assessment

Week 2

Monday 3	Tuesday 4	Wednesday 5	Thursday 6	Friday 7
MORNING LECTURE in 212 Animal Sciences Building 8:00 AM - noon				
Zac Williams • Nervous system	**Zac Williams** • Nervous system (finish) • Behavior • Endocrinol.	**Zac Williams** • Endocrinology • Stress/Hypothalamic-pituitary-adrenal axis • Sexual Development	**Zac Williams** • Reproduction in the male • Reproduction in the female	**Zac Williams** • **Exam 2** • Preparation time for team presentation
AFTERNOON LABORATORY in 128 Animal Sciences Building 1:00 PM – 5:00 PM				
Zac Williams **John Parrish** • Tonic Immobility • Heart Rate in Adult bird • Body Temperature • Heart Rate of Chick Embryo	**Zac Williams** **John Parrish** • Glucose homeostasis • Effect of light on reproduction	**Zac Williams** **John Parrish** **QUIZ 2** 1:00-1:45 Lecture room 212 • Semen collection, evaluation, insemination	**Zac Williams** **John Parrish** • Egg Breakouts • Sperm hole assay • Sperm storage tubule dissection and visualization • Testis histology (only if time)	**Zac Williams** **John Parrish** Lecture room 212 • Team presentations • Evaluations