

Avian Physiology 503

2017 Syllabus

WEEK 1

May 15 - 19

John Parrish, Ph.D., Course Coordinator
University of Wisconsin-Madison
Department of Animal Sciences
Madison, WI 53706
Phone: (608) 263-4324
parrish@ansci.wisc.edu

Scotti Hester, Ph.D.
Purdue University
Department of Animal Sciences
West Lafayette, IN 47907
Phone (765) 494-8019
phester@purdue.edu

WEEK 2

May 22-26

John Parrish, Ph.D., Course Coordinator
University of Wisconsin-Madison
Department of Animal Sciences
Madison, WI 53706
Phone: (608) 263-4324
parrish@ansci.wisc.edu

Greg S. Fraley, Ph.D.
Hope College
Biology Department
Holland, MI 49423-3605
Phone: (616) 395-7306
fraley@hope.edu

Murray Bakst, Ph.D.
Retired from USDA, ARS
Columbia, MD 21045
Phone: (410) 707-9369
murray.bakst@outlook.com

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 an 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, musculoskeleton, 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	<ol style="list-style-type: none"> 1. Understand and appreciate: <ol style="list-style-type: none"> 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
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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* relating to physiology: 1 @ 100 points	<u>100 points</u>
	Total:	500 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.

WEEK 1

Monday 15	Tuesday 16	Wednesday 17	Thursday 18	Friday 19
MORNING LECTURE in 212 Animal Sciences Building 8:00 AM - noon				
Scotti Hester <ul style="list-style-type: none"> • Introduction • Integument • Skeleton • Muscles 	Scotti Hester <ul style="list-style-type: none"> • Nervous System • Special Senses 	Scotti Hester <ul style="list-style-type: none"> • Cardiovascular • Respiration • Renal function 	Scotti Hester <ul style="list-style-type: none"> • Acid-base • Alimentary system 	Scotti Hester-proctor <ul style="list-style-type: none"> • Review 8:00-8:30 <li style="text-align: center;">Exam 1 8:30-10:00 Scotti Hester <ul style="list-style-type: none"> • Calcium metabolism • Thermoregulation
AFTERNOON LABORATORY in 128 Animal Sciences Building unless otherwise indicated 1:00 PM – 5:00 PM				
John Parrish Scotti Hester <ul style="list-style-type: none"> • Introduction • Details on team presentation • Safe laboratory procedures • Bird handling (Poultry Res. Lab.) • Anatomy (whole chicken carcass) 	John Parrish Scotti Hester <ul style="list-style-type: none"> • Blood collection • Euthanasia with CO₂ followed by cardiac puncture • Cervical dislocation • Injection techniques • Anatomy chicken necropsy (young birds) 	John Parrish Scotti Hester <p style="text-align: center;">QUIZ 1 1:00-1:45 Lecture room 212</p> <ul style="list-style-type: none"> • Blood collection <ul style="list-style-type: none"> ➤ Blood smear for differential WBC ➤ Hematocrit ➤ RBC and/or WBC count 	John Parrish Scotti Hester <ul style="list-style-type: none"> • Calorimetry • Collect blood samples for antibody agglutination • Review- Quiz Bowl • Work on team presentation (Room 204) 	John Parrish Scotti Hester <ul style="list-style-type: none"> • Antibody agglutination • Work on team presentation (Room 204)

WEEK 2

Monday May 22	Tuesday May 23	Wednesday May 24	Thursday May 25	Friday May 26
MORNING LECTURE in 212 Animal Sciences Building unless otherwise indicated 8:00 AM - noon				
<p>Greg Fraley</p> <ul style="list-style-type: none"> • Sex determination/ differentiation <p>Murray Bakst</p> <ul style="list-style-type: none"> • Reproduction <ul style="list-style-type: none"> ➤ Female 	<p>Murray Bakst</p> <ul style="list-style-type: none"> • Reproduction <ul style="list-style-type: none"> ➤ Male ➤ Fertility 	<p>Greg Fraley</p> <ul style="list-style-type: none"> • Endocrinology • Stress • Hypothalamic-pituitary-adrenal axis 	<p>Greg Fraley</p> <ul style="list-style-type: none"> • Behavior • Immunity 	<p>Greg Fraley</p> <ul style="list-style-type: none"> • Exam 2 • Preparation time for team presentation (Room 204)
AFTERNOON LABORATORY in 128 Animal Sciences Building unless otherwise indicated 1:00 PM – 5:00 PM				
<p>Murray Bakst John Parrish Greg Fraley</p> <ul style="list-style-type: none"> • Semen collection • Semen evaluation • Egg breakouts • Sperm hole assay 	<p>Greg Fraley Murray Bakst John Parrish</p> <ul style="list-style-type: none"> • Testis histology • Sperm storage tubules • Yolk formation 	<p>QUIZ #2 1:00-1:45 Lecture room 212 Greg Fraley John Parrish</p> <ul style="list-style-type: none"> • Anatomical response to photoperiod using egg laying strains of chickens • Glucose tolerance 	<p>Greg Fraley John Parrish</p> <ul style="list-style-type: none"> • Tonic immobility • Somatosensory 	<p>John Parrish Greg Fraley Room 134</p> <ul style="list-style-type: none"> • Team presentations • Evaluations