Avian Physiology 503
2018 Syllabus

WEEK 1

May 14 - 18

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WEEK 2

May 21-25

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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 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	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* relating to physiology: 1 @ 100 points	100 points
	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 **14**	**Tuesday** **15**	**Wednesday** **16**	**Thursday** **17**	**Friday** **18**
MORNING LECTURE in 212 Animal Sciences Building **8:00 AM - noon**				
Yuko Sato • Introduction • Integument • Skeleton • Muscles	**Yuko Sato** • Respiration • Special Senses	**Yuko Sato** • Respiration • Renal function • Immunology	**Yuko Sato** • Acid-base • Alimentary system	**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 • Cervical dislocation • Injection techniques • Anatomy chicken necropsy (young birds)	**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 • Collect blood samples for antibody (pullorum) agglutination • Review- Quiz Bowl • Work on team presentation	**John Parrish** **Yuko Sato** • Antibody agglutination • Work on team presentation

WEEK 2

Monday **May 21**	**Tuesday** **May 22**	**Wednesday** **May 23**	**Thursday** **May 24**	**Friday** **May 25**
MORNING LECTURE in 212 Animal Sciences Building **8:00 AM - noon**				
Greg Fraley • Sex determination/ differentiation **Greg Fraley** • Reproduction ➢ Female	**Greg Fraley** • Reproduction ➢ Male ➢ Fertility	**Greg Fraley** • Endocrinology • Stress • Hypothalamic-pituitary-adrenal axis	**Greg Fraley** • Behavior • Nervous System	**Greg Fraley** • **Exam 2** • Preparation time for team presentation
AFTERNOON LABORATORY in 128 Animal Sciences Building except for QUIZ 2 and Friday May 26 **1:00 PM – 5:00 PM**				
John Parrish **Greg Fraley** • Semen collection • Semen evaluation • Egg breakouts • Sperm hole assay • Testis histology	**Greg Fraley** **John Parrish** • Sperm storage tubules • Yolk formation	**QUIZ 2** 1:00-1:45 Lecture room 212 **Greg Fraley** **John Parrish** • Anatomical response to photoperiod using egg laying strains of chickens • Glucose tolerance	**Greg Fraley** **John Parrish** • Tonic immobility • Somatosensory	**John Parrish** **Greg Fraley** Lecture room 212 • Team presentations • Evaluations