



Course Title: Equine Anatomy and Physiology	Lecture and Lab Hours (eg. 3-3): Lectures: 3hr M, T, Th 9am in Parish 108 Lab: 3hr F 9am – 12 pm AHL lab	
Instructor Name(s): Dr. Paul Sharpe, Room 207 Fraser, ext 61448 Office Hours: M, T, Th 2pm-3pm email: psharpe@kemptvillec.uoguelph.ca Helen Macgregor, Room 216E Parish, ext 61278 Office Hours: M 9am – 12pm email: hmacgreg@kemptvillec.uoguelph.ca		
Course Code: EQN*2040	Semester Offering: Fall 2011	Credit Weight: 0.50

Calendar Description:

This course investigates the gross anatomy and physiology of the horse. All the major body organs will be studied in relation to their function in the equine. Comparative analysis will be made to other domestic farm animals.

Evaluation

Laboratory	27%
Assignment	13%
Midterm	25%
Final exam	35%
TOTAL	100%

Method of Presentation

Course Delivery: There will be three lectures and one lab session each week. Lectures to be given using visual material including Powerpoint presentations, overheads, and videos. Labs will involve hands-on learning using live horses, carcass dissection and models.

Course Objectives:

Upon completion of this course, students should/will:

1. Be able to recognize and identify the major anatomical structures of the horse.
2. Explain the function of the major equine anatomical structures and systems.
3. To relate physiological functions to anatomical structures.
4. To integrate knowledge of anatomy and physiology as it relates to the living horse.
5. To compare physiological differences between horses and other species.

Weekly Course outline

DATE	Week	Lect/ Lab #	ACTIVITIES
Sept 8-9	0		Course Discussion, Intro to Anatomy and Physiology. No lab this week.
Sept 13-17	1	Lab	Define cell, tissue and organ systems. Intro to the skeletal system Lab introduction and safety protocols. Video Equine anatomy
Sept 20-24	2	Lab 1	Skeletal system. Axial and appendicular skeleton. Anatomy and physiology of bone and joints. The stay apparatus. Examination of equine skeleton via models. <i>Introduce term assignment.</i>
Sept 27- Oct 1	3	Lab 2	The Integument. Skin, hair and hoof. Hoof form and function. Coat colour and markings. Quiz on Lab 1. Histological exam of integument. Dissection of lower leg. Coat colour genetics.

Oct 4 – Oct 8	4	Lab 3	Muscular system. Identify main locomotor muscles. Anatomy and physiology of muscle. Interaction between skeletal and muscular system in movement. Quiz on Lab 2. Examination of the live horse at rest and in motion.
Oct 12 – 15	5	Lab 4	Cardiovascular system. Structure and function of blood. Components of the circulatory system. Cardiac cycle. Quiz on Lab 3. Dissection of equine heart. Microscopic examination of blood.
Oct 18 – 22	6	Lab 5	Respiratory system. Body's defence system to protect the lungs. Gas exchange processes. Respiratory cycle. Exercise and recovery.
Oct 25 - 29	7	Lab 6	Mid- term examination (Thursday, Oct 27, 9:00 – 11:00) Urinary system. Functional physiology. Hormonal influences. Role of kidney in red blood cell formation. Factors that affect urine concentration. Dissection of kidney and urinalysis.
Nov 1 – 5	8	Lab 7	Reproductive system of the mare. Estrous cycle. Conception, pregnancy, fetal development. Quiz on Lab 6. Dissection of mare reproductive tract. Estrous cycle. Breeding Soundness Exam Draft of Assignment Due Friday, November 4 by 12:00 noon.
Nov 8 - 12	9	Lab 8	Reproductive system of the stallion. Hormonal control of libido and sperm production. Factors that affect sperm quality. Role of accessory sex glands. Quiz on Lab 7. Dissection of stallion reproductive tract. Semen analysis.
Nov 15 - 19	10	Lab 9	Nervous system. Peripheral and central nervous system. Sympathetic and parasympathetic. Spinal and cranial reflexes. Field Trip EBI at 7:45am. Quiz on Lab 8. Neurological exam of the horse. Assignment DUE Friday, November 18 by 12:00 noon
Nov 22 - 26	11	Lab	Immune system. Humeral defences - cellular, complement, antibodies, cell mediated. Antibody production and antibody-antigen interactions. Concept of histocompatibility. Student Presentations on immunology and endocrine topics.
Nov 29 – Dec 2	12		Endocrine system. Identify organs associated with hormone production. Differentiate between protein and steroid hormones - production and mode of action.
Dec 10			Final Exam: Saturday December 10, 2011: 11:30 am – 1:30 pm.

Course Prerequisite(s): BIOL*1040	Course Restriction(s):(if limited enrolment) BBRM Equine Management students
Text Book(s) Required: Anatomy and Physiology of Farm Animals (Frandsen) The Horse Anatomy Workbook (Raynor) EQN2040 Lab Manual 2011	Reference Material: “Horse Anatomy” (J. Goody) “The Visible Horse” (Susan Harris)

Additional Course Requirements:
Wear appropriate footwear and clothing in the laboratory and barn. (lab coats needed for dissection days)

Additional Information:

1. Digestive anatomy and physiology will be covered in Introduction to Equine Nutrition (EQN*2050)
2. There will be a short, in-lab quiz every Friday morning unless otherwise indicated.
3. Individual lab reports are due at the end of each lab unless otherwise indicated.
4. Failure to show up for testing will result in a mark of 0 (zero) unless the student submits a “Request for Reconsideration” form to the lab office (Parish 216B) by the last day of classes.
5. Instructions for the term assignment are in your lab manual. The draft due date is: Nov 4 by 12:00 noon. The final due date is: Nov 18 by 12:00 noon.
6. Late assignments or lab reports will **not** be marked. Any illegible or un-named assignments will not be marked.
7. The student is responsible for reading and understanding the Undergraduate Degree Regulations and Procedures for Academic Misconduct (<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>)

STUDENT RESPONSIBILITIES:

- ✓ **It is expected that all students will respect the personal dignity of others and have a shared commitment to the goals of education.**
- ✓ **Students will interact with each other and the instructor in a courteous manner.**
- ✓ **Students come to class on time, prepared and ready to participate. Class attendance is paramount to academic achievement.**
- ✓ **Lap top computers are permitted for note taking and class related purposes only. Communicating via Face Book or other social media during class is strictly forbidden. Failure to comply will result in the removal of computer privileges.**
- ✓ **Cell phones must be turned off during class time.**