Course Outline Form: W 2018

General Information

Course Title: EQN*2040 Equine Anatomy and Physiology

Course 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.

Credit Weight: 0.50

Academic Department (or campus): Department of Animal Biosciences

Campus: Guelph

Semester Offering: W18

Class Schedule and Location:
Lecture: Tuesday and Thursday 1:00 – 2:20PM ALEX 218
Lab: (Section 1) Wednesday 2:30-5:20 AnNu 110
        (Section 2) Monday 8:30-11:20 AnNu 110

Instructor Information

Instructor Name: Dr. Wendy Pearson
Instructor Email: wpearson@uoguelph.ca
Office location and office hours: AnNu 227; office hours by appointment

GTA Information

GTA Name: Jennifer MacNicol
GTA Email: jmacnico@uoguelph.ca
GTA office location and office hours: AnNu 217; office hours by appointment

Course Content

Specific Learning Outcomes:

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.

<table>
<thead>
<tr>
<th>Week of..</th>
<th>Week #</th>
<th>Activities</th>
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</thead>
<tbody>
<tr>
<td>Jan 8</td>
<td>1</td>
<td>Introduction to anatomy and physiology</td>
</tr>
<tr>
<td>Jan 15</td>
<td>2</td>
<td>Gastrointestinal anatomy and physiology</td>
</tr>
<tr>
<td>Jan 29</td>
<td>4</td>
<td>The Integument. Skin, hair and hoof. Hoof form and function. Coat color and markings.</td>
</tr>
<tr>
<td>Feb 5</td>
<td>5</td>
<td>Muscular system. Identify main locomotory muscles. Anatomy and physiology of muscle. Interaction between skeletal and muscular system in movement.</td>
</tr>
<tr>
<td>Feb 12</td>
<td>6</td>
<td>Cardiovascular system. Structure and function of blood. Components of the circulatory system. Cardiac cycle.</td>
</tr>
<tr>
<td><strong>Feb. 19</strong></td>
<td><strong>WINTER BREAK – NO CLASSES THIS WEEK</strong></td>
<td></td>
</tr>
<tr>
<td>Feb 26</td>
<td>7</td>
<td>Respiratory system. Body’s defense system to protect the lungs. Gas exchange processes. Respiratory cycle.</td>
</tr>
<tr>
<td>Mar 12</td>
<td>9</td>
<td>Nervous system.</td>
</tr>
<tr>
<td>Mar 19</td>
<td>10</td>
<td>Endocrine system. Identify organs associated with hormone production. Differentiate between protein and steroid hormones - production and mode of action.</td>
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<tr>
<td>Apr. 2</td>
<td>12</td>
<td>Lymphatics</td>
</tr>
</tbody>
</table>

**Laboratory Schedule**

<table>
<thead>
<tr>
<th>Week of..</th>
<th>Week #</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 8</td>
<td>1</td>
<td>Introduction to lab portion of course; safety procedures and protocols; video ‘Equine Anatomy’</td>
</tr>
<tr>
<td>Jan 15</td>
<td>2</td>
<td>Gross anatomy of the gastrointestinal tract</td>
</tr>
<tr>
<td>Jan 22</td>
<td>3</td>
<td>Examination of equine skeletal anatomy via models.</td>
</tr>
</tbody>
</table>
| Jan 29    | 4      | **Quiz 1 - Skeleton**  
Histological exam of integument. Dissection of lower leg. Coat color genetics.  
*Colour coat genetics page due Week 5 in lab* |
| Feb 5     | 5      | **Quiz 2 - Integument**  
*(in Barn 37, Wing A)*  
Muscles and introduction to conformation  
*Colour coat genetics page due in lab* |
| Feb 14    | 6      | **Quiz 3 - Muscles**  
Dissection equine heart and lung |
Feb 26  7  Mid-term examination Friday March 3, online via courselink
Mar 5  8  Quiz 4 - Cardio Respiratory
    Dissection of kidney and urinalysis
Mar 12  9  Quiz 5 – Kidney and urinary system (online)
    No lab this week
Mar 19 10  Quiz 6 – Nervous system
    Sense organ: the equine eye
Mar 26 11  Quiz 7 – Equine Eye
    Diagnostic immunology
Apr 2 12  no lab this week
    Term Paper DUE Fri Apr 6, by 4:00pm

Final Exam

** Students are required to wear appropriate footwear and clothing in the laboratory and barn.

Seminars:

Not applicable.

Course Assignments and Tests:

1. Term Assignment (Worth 15% of final grade)
   DUE: FRIDAY, April 6 2017 4:00 PM

The assignment is designed so that the student can integrate knowledge gathered in lectures and labs with information found in primary research papers. The research review paper is intended to be a state-of-the-art scientific review of what is known, and NOT known, about the APPROVED equine anatomy topic you have chosen to study.

Students will find a topic of interest pertaining to a question or a problem in Equine Anatomy or Physiology. Please note that it is the student's responsibility to ensure that your topic is approved by the instructor prior to commencing work on your paper. Students will prepare a detailed literature review, according to the instructions below. PLEASE FOLLOW INSTRUCTIONS CAREFULLY.

✓ A minimum of 10 peer reviewed scientific research papers
  ▪ review papers and text books may be used as resources but cannot be counted in your 10 research papers
✓ Proper referencing using the Equine Veterinary Journal style
✓ 11 pt time new roman font, single-spaced, 1.5 inch margins
✓ 6-8 pages (DO NOT EXCEED MAXIMUM PAGE LENGTH)
  ▪ Diagrams, tables and references are in addition to the page count.
✓ Subheadings must be used to organize your paper, and format should follow that of a published review paper

Rubric for Term Assignment Papers

Title and Abstract  (20/100)
Briefly states the purpose, why this area of research is important, and the key points that the review makes.

Introduction (20/100)
The introduction should get the reader's attention, introduce the main idea of the report, and end with a strong thesis statement.

Body (50/100)
- Use Headings / Subheadings to help organize the flow of topics and information
- Paragraphs should begin with a clear topic sentence, which contains an important idea about your research topic. Supporting, detailed sentences should follow the topic sentence. The paragraph should end with a strong summary statement.
- Paragraphs should be arranged in the best possible order.
- Each section should end with a brief summary paragraph.
- Points to consider:
  o Are the topics stated in the thesis statement appropriately addressed in the report?
  o Did the student stay focused on the main topic and sub topics?
  o Are details used to explain and clarify the main issue/topic?
  o Is the information, presented by the student, appropriate?
  o Did the student adequately integrate research results?
  o Did the students provide sufficient research data to reach a clear conclusion regarding the topic?
  o Spelling checked? Punctuation checked? Capitalization checked? Grammar and usage checked?

Conclusions (5/100)
The conclusion repeats the main part of the report and ends with a final, interesting sentence. The thesis statement is often restated here.

References (5/100)
Format references using the style of the Equine Veterinary Journal
See: [http://onlinelibrary.wiley.com/journal/10.1001/(ISSN)2042-3306/homepage/ForAuthors.html](http://onlinelibrary.wiley.com/journal/10.1001/(ISSN)2042-3306/homepage/ForAuthors.html)

<table>
<thead>
<tr>
<th>Performance Element</th>
<th>Distinguished 90-100 Points</th>
<th>Proficient 80-90 Points</th>
<th>Intermediate 60-80 Points</th>
<th>Novice 0-60 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose and Focus</td>
<td>Establishes and maintains clear focus; writer's central purpose or argument is readily apparent to the reader.</td>
<td>Writing has a clear purpose or argument, but may sometimes digress from it.</td>
<td>Central purpose or argument not consistently clear throughout paper.</td>
<td>Limited awareness of audience and/or purpose; The purpose or argument is generally unclear.</td>
</tr>
<tr>
<td>Content and Development of Ideas</td>
<td>Depth and complexity of ideas supported by pertinent details; evidence of analysis, reflection and insight. Balanced presentation of relevant and legitimate information that clearly supports a central purpose or argument and shows a thoughtful, in-depth analysis of a significant topic. Reader gains important insights.</td>
<td>Depth of idea development supported by elaborated, relevant details. Information provides reasonable support for a central purpose or argument and displays evidence of a basic analysis of a significant topic. Reader gains some insights.</td>
<td>Unelaborated idea development; unelaborated and/or repetitious details. Information supports a central purpose or argument at times. Analysis is basic or general. Reader gains few insights.</td>
<td>Minimal idea development, limited and/or unrelated details. Central purpose or argument is not clearly identified. Analysis is vague or not evident. Reader is confused or may be misinformed.</td>
</tr>
<tr>
<td>References</td>
<td>References are primarily peer reviewed professional journals or other approved sources (e.g., government documents, agency manuals, …). The reader is confident that the</td>
<td>Although most of the references are professionally legitimate, a few are questionable (e.g.,</td>
<td>Most of the references are from sources that are not peer reviewed and have uncertain</td>
<td>There are virtually no sources that are professionally reliable. The reader seriously doubts the value of the material and stops reading.</td>
</tr>
</tbody>
</table>
information and ideas can be trusted. The reader doubts the accuracy of much of the material presented.

The ideas are arranged logically to support the meaning or argument. For the most part, the reader can follow the line of reasoning. In general, writing is arranged logically, though occasionally ideas fail to make sense. Reader is fairly clear about what writer intends.

Controlled and varied sentence structure Variety of sentence structure and length Simplistic and/or awkward sentence structure Incorrect or lack of topic and/or ineffective wording and/or sentence structure

Precise and/or rich language Acceptable, effective language Simplistic and/or imprecise language Incorrect and/or ineffective wording and/or sentence structure

Control of surface features Few errors in grammar or format relative to length and complexity Some errors in grammar and/or format that do not interfere with communication Errors in grammar and format (e.g., spelling, punctuation, capitalization, etc)

Course Evaluation

<table>
<thead>
<tr>
<th>Assignment or Test</th>
<th>Due Date</th>
<th>Contribution to Final Mark</th>
<th>Learning Outcomes Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term Assignment</td>
<td>April 6 at 4:00pm</td>
<td>15%</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>See lab schedule above</td>
<td>14%</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>Lab Quizzes</td>
<td>See lab schedule above</td>
<td>11%</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>March 2, 2017 ONLINE VIA COURSELINK</td>
<td>25%</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Date TBA ONLINE VIA COURSELINK</td>
<td>35%</td>
<td>1,2,3,4,5</td>
</tr>
</tbody>
</table>

Additional Notes (if required):
Unless otherwise specified, all lab reports must be handed in at end of each lab. Lab work can be done in groups of 5 or less, however reports are graded as individual efforts.

Final examination date and time:
The final exam is TBA ONLINE VIA COURSELINK

Final exam weighting:
Final exam is 35% of mark.

Course Resources

Required Texts:
by Budras, Klaus Dieter, Sack, W.O., Rock, Sabine
Available online at
http://primo.tug-libraries.on.ca/primo_library/libweb/action/dlDisplay.do?vid=GUELPH&docId=vtug4389209&fn=permalink
Hardcopy available for purchase at the Bookstore

Recommended Texts:
   (available at Bookstore. Also on Reserve in Library)
2. Anatomy and Physiology of Farm Animals (Frandson) (e-version available through UofG Library)
3. Horse Anatomy: A Coloring Atlas (Kainer, McCracken) (available at Bookstore)

Lab Manual:
EQN2040 Lab Manual

Other Resources:
1. Horse Anatomy Workbook (Raynor)
2. Conditioning Sport Horses (Clayton)
3. Equine Exercise Physiology (Hincliff, Geor, & Kaneps)
4. Horse Anatomy: A Pictorial Approach to Equine Structure (P. Goody)
5. Clinical Anatomy of the Horse (Clayton)
6. Equine Color Genetics (Sponenberg)
7. The Glass Horse (Platinum Performance)
8. The Visible Horse: Anatomy in Motion 1 (Susan Harris)

Field Trips:
None

Additional Costs:
Steel-toe safety shoes are required for labs involving live horse demonstration/activities.

Course Policies

Grading Policies:
University of Guelph policy on late assignments: penalty of 20% per day for maximum of three
days after which no assignments will be accepted without approved academic consideration.
For your Term Assignment, the late penalty will be charged for each day later than 4:00pm (ie.
If you get your paper in at 6pm on the due date you will be charged one late day!)

Alternate assessments will be offered only to students with documented medical,
psychological, or compassionate reasons for missing a scheduled assessment. An Academic
Consideration form must be submitted to the instructor. Go to
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac-ac.shtml for
information on regulations and procedures related to Academic Consideration.

Late assignments without the aforementioned documentation will receive a penalty of 20% per
day, for up to a maximum of 3 days. Assignments submitted later than 3 days will not be accepted and will result in a zero grade. We do not provide makeup labs, quizzes or exams.

**Course Policy on Group Work:**
Unless otherwise specified, all lab reports must be handed in at end of each lab. Lab work can be done in groups of 5 or less, however reports are graded as individual efforts.

**Course Policy regarding use of electronic devices and recording of lectures:**

The general use of small, personal electronic devices (e.g. cell phones, iPods) during class is disruptive and disrespectful. As a result, their use in the classroom for reasons other than instructor-led learning is prohibited.

The use of a laptop for the purpose of taking notes/learning in the classroom is a *privilege*. Any student abusing this concession by using a laptop in class for other purposes will have the privilege revoked.

**University Policies**

**Academic Consideration:**

The University of Guelph is committed to supporting students in their learning experiences and responding to their individual needs and is aware that a variety of situations or events beyond the student’s control may affect academic performance. Support is provided to accommodate academic needs in the face of personal difficulties or unforeseen events in the form of Academic Consideration.

Information on regulations and procedures for Academic Consideration, Appeals and Petitions, including categories, grounds, timelines and appeals can be found in [Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar](#).

**Academic Misconduct:**

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.
Detailed information regarding the Academic Misconduct policy is available in Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar.

Accessibility:

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Student Accessibility Services (SAS), formerly Centre for Students with Disabilities (CSD), as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email sas@uoguelph.ca or visit the Student Accessibility Services website (http://www.uoguelph.ca/csd/).

Course Evaluation Information:

End of semester course and instructor evaluations provide students the opportunity to have their comments and opinions used as an important component in the Faculty Tenure and Promotion process, and as valuable feedback to help instructors enhance the quality of their teaching effectiveness and course delivery.

While many course evaluations are conducted in class others are now conducted online. Please refer to the Course and Instructor Evaluation Website for more information.

Drop period:

The last date to drop one-semester courses, without academic penalty, is November 4, 2016. For regulations and procedures for Dropping Courses, see the Academic Calendar: Current Undergraduate Calendar.

Additional Course Information

In the classroom, students are expected to demonstrate behaviour that would meet the minimum conduct requirements of any professional working environment. This includes appropriate use of language and non-verbal communication.

Keep paper and/or other reliable back-up copies of all out-of-class assignments- you may be asked to resubmit work at any time.

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the written permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.
**Electronic Communications:** It is the student’s responsibility to ensure that he/she knows how to send and receive e-mail using his/her *GryphMail* account and to check it regularly. All course-related electronic communications with the instructor and fellow students are to be delivered with the *GryphMail* account. CourseLink will be used as our method to relay information and content related to the course. The course website on CourseLink should be consulted daily for general information, lecture content, location of labs, announcements, detailed information about assignments, room location for the midterm, marks and study resources. We will use the News section to provide clarification, additional instructions and information regarding the current activities in the course. PDF versions of lectures will be available prior to each lecture under Content tab. Files submitted to the CourseLink Drop box must be in a MS Word format (*.doc or *.docx or *.rtf) or in a portable document format (*.pdf).