

Course Outline Form: Winter 2018

General Information

Course Title: EQN*3050 Equine Exercise Physiology

Course Description:

This course considers the conversion of absorbed nutrients into metabolic fuels and the use of these substrates for work and heat production in horses. This knowledge is used as a basis for the understanding of the training and performance of horses used for competitive purposes. Students will develop an understanding for the basic physiological principles of muscle contraction and fatigue, thermoregulation, energy utilization under differing exercise intensities, and how these principles can be applied to differential training strategies for equine athletes.

Credit Weight: 0.50

Academic Department (or campus): Department of Animal Biosciences

Campus: Guelph

Semester Offering: W18

Class Schedule and Location: Tuesday and Thursday 10:00am – 11:20am LA 204

Instructor Information

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

GTA Information

GTA Name: Page Kennedy
GTA Email: kennedyp@uoguelph.ca
GTA office location and hours: office hours by appointment

Course Content

Specific Learning Outcomes:

Upon completion of this course, students should/will:

1. understand and explain basic principles of muscle contraction and relaxation within a context of energetic inputs and differential training regimens

2. define fundamental principles of energy demand, energy supply and energy utilization within muscle
3. articulate the integration of major physiological systems, including cardiovascular, respiratory, musculoskeletal and gastrointestinal systems within the context of the equine athlete.

Lecture Content:

Date	Week #	Activities	Readings (pgs)
Jan 9, 11	1	Introduction to exercise physiology	1-12, 30-80
Jan 16, 18	2	Muscle Physiology	30-80
Jan 23, 25	3	Bones, tendons and ligaments: adaptive responses to exercise and training	81-105, 106-131
Jan 30, Feb 1	4	Articulating joints and cartilage	132-142
Feb 6, 8	5	Biomechanics of appendicular skeleton and hooves	143-168
Feb 13, 15	6	Respiratory physiology in exercise and training	170-210
Feb 20, 22		WINTER BREAK. NO CLASSES.	
Feb 27, Mar 1	7	Cardiovascular function and oxygen transport	212-246
Mar 6, 8	8	Gastrointestinal responses to exercise and training; ergogenic aids	301-326
Mar 13, 15	9	Hydration and thermoregulation	328-349, 382-396
Mar 20, 22	10	Metabolic and endocrine responses to exercise and training	248-272, 424-440
Mar 27, 29	11	Acid-base physiology	350-381
Apr 3, 5	12	Exercise testing in the field	

Labs: None

Course Assignments and Tests:

Assignment or Test	Due Date	Contribution to Final Mark	Learning Outcomes Assessed
Quiz 1	Fri, Jan 26	20%	1,2
Quiz 2	Fri Feb 9	20%	1,2,3
Quiz 3	Fri Mar 9	20%	1,2,3
Final Exam	Fri Apr 6	40%	1,2,3

Final examination date and time:

Date TBA. The exam will be cumulative and will be available via courselink.

Final exam weighting: 40% of mark.

Course Resources

Required Texts:

Equine Exercise Physiology: The Science of Exercise in the Athletic Horse. Author(s): Kenneth W. Hinchcliff, BVSc(Hons) MS PhD Dip ACVIM, Raymond J. Geor, BVSc MVSc PhD Dipl ACVIM, and Andris J. Kaneps, DVM PhD Dip ACVS. ISBN: 978-0-7020-2857-1. PDF version available via University library.

Recommended Texts:

1. Anatomy and Physiology of Farm Animals (Frandsen) (e-version available through UofG Library)

Field Trips:

None

Additional Costs:

None

Course Policies

Grading Policies:

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, if applicable, will be penalized at 10% per day late, commencing the day following the published due date, and will only be accepted for a maximum of 3 days following the published due date.

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 \(http://www.uoguelph.ca/csd/\)](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 drop period for single semester courses starts at the beginning of the add period and extends to the Fortieth (40th) class day of the current semester (the last date to drop a single semester courses without academic penalty) which is listed in [Section III \(Schedule of Dates\) of the Undergraduate Calendar](#).

The drop period for two semester courses starts at the beginning of the add period in the first semester and extends to the last day of the add period in the second semester.

Information about Dropping Courses can be found in [Section VIII \(Undergraduate Degree Regulations and Procedures\) of the 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, announcements, 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.