

# Course Outline Form: Winter 2018

## **General Information**

**Course Title:** EQN\*3060 Equine Reproduction

### **Course Description:**

Students will develop a solid foundation in reproductive endocrinology and physiology in the stallion and the mare, emphasis on physiology, breeding management and recognition of common reproductive problems in stallion, mare or foal. Practical experience includes dissection of reproductive tracts, semen collection and evaluation.

**Credit Weight:** 0.50

**Academic Department (or campus):** ABSc

**Campus:** Guelph Campus

**Semester Offering:** Winter 2018

### **Class Schedule and Location:**

Lecture: Tuesday, Thursday 4:00-5:20pm; ANNU306

Lab: Monday 2:30-5:20pm; ANNU110

## **Instructor Information**

**Instructor Name:** Katrina Merkies

**Instructor Email:** [kmerkies@uoguelph.ca](mailto:kmerkies@uoguelph.ca)

**Office location and office hours:** ABSc 249; by chance or appointment

## **GTA Information**

**GTA Name:** Lexie Wright

**GTA Email:** [lexie@uoguelph.ca](mailto:lexie@uoguelph.ca)

**GTA office location and office hours:** by appointment only

## **Course Content**

### **Specific Learning Outcomes:**

1. Identify the anatomical structure of both stallion and mare reproductive tracts
2. Explain the effects and mode of action of reproductive hormones in the stallion and mare
3. Describe the life cycle of spermatozoa and oocytes
4. Interpret behavioral signs associated with reproduction and foaling and recommend possible action
5. Describe how to handle both stallion and mare in breeding situations
6. Identify the key features required to manage a breeding farm compared to a non-breeding stable

**Lecture Content:**

<b>DATE</b>	<b>ACTIVITIES</b>
Jan 9/11	Introduction to the course. Feral sexual behavior. Male and female structure and function
Jan 16/18	Breeding farm management Gametogenesis, sperm maturation, physiology, morphology
Jan 23/23	Endocrine regulation of testes and male accessory organs Semen evaluation
Jan 30 Feb 1	Endocrine regulation of female reproductive tract and estrous cycle
Feb 6/8	Breeding behavior and techniques (live, artificial). Estrous cycle management, controlled breeding (cycle and ovulation rate)
Feb 13/14	AI and the AI industry, government regulation of equine biological imports (semen, embryos), stallion/broodmare quarantine. Cryopreservation (semen, oocytes)
Feb 20/21	Reading Week
Feb 27 Mar 1	Fertilization, fetal development, pregnancy detection, endocrinology of pregnancy
Mar 6/8	Placentation, early embryonic development, ET, IVF, cryopreservation of embryos, ART
Mar 13/14	Gestation, parturition, foaling (normal and malpresentation)
Mar 20/21	Postpartum period, lactation, neonatal care, maternal behavior, weaning. Post foaling problems mare and foal
Mar 27/29	Reproductive problems in the mare – infertility and abortion
Apr 3/5	Reproductive problems in the stallion - infertility. Castration. Review

**Lab Content:**

<b>DATE</b>	<b>ACTIVITIES</b>
Jan 8	<i>No lab in first week</i>
Jan 15	Breeding soundness exams of the mare and stallion
Jan 22	Dissection of male reproductive tract
Jan 29	Stallion semen evaluation
Feb 5	Dissection of female reproductive tract
Feb 12	Estrous cycle manipulation and introduction to reproductive technologies
Feb 19	Reading Week
Feb 26	<b><i>Midterm exam</i></b>
Mar 5	Assembling the AV. Processing and storage of liquid semen.
Mar 12	<b><i>Field trip – Deerpath Breeding</i></b> Mare Palpation, ultrasound and estrus/pregnancy detection
Mar 19	Dissection of pregnant mare tracts and placentae
Mar 26	Parturition and Dystocia, milk calcium testing
Apr 2	<b><i>Field trip – Warawee Farm</i></b>

\*lab dates subject to change

## Course Assignments and Tests:

Date due	Assignment	Weighting	Learning outcomes assessed
	Midterm exam	30%	1-6
	Lab assignments		1-6
Jan 15	1. BSE	4%	5,6
Jan 22	2. Male dissection	4%	1
Jan 29	3. Semen evaluation	4%	1,3
Feb 5	4. Mare dissection	4%	1,3
Feb 12	5. Estrous cycle	4%	1-6
Mar 5	6. Semen storage	4%	1-3,5,6
Mar 12	7. Field trip 1	4%	6
Mar 19	8. Pregnant tract dissection	4%	1,2,4,5
Mar 26	9. Foaling	4%	1,2,3-6
Apr 2	10. Field trip 2	4%	6

\*lab due dates subject to change

All lab assignments must be handed in at the end of each lab period.

**Final examination date and time:** April 20, 2018 2:30-4:30pm

**Final exam weighting:** 30%

## Course Resources

### Required Texts:

Brinsko, S.P., Blanchard, T.L., Varner, D.D., et al (2011) Manual of Equine Reproduction 3<sup>rd</sup> ed, St Louis: Mosby/Elsevier

Available in electronic format through Primo

<http://www.sciencedirect.com/science/book/9780323064828>

Brinsko, S.P., Blanchard, T.L. (2005) Manual of Equine Reproduction 2<sup>nd</sup> ed, St Louis: Mosby/Elsevier.

Available at the Reserve Desk in the Library

### Recommended Texts:

1. Kainer, R.A., McCracken, T.O. (1998) Horse Anatomy Coloring Atlas 2<sup>nd</sup> ed .Loveland: Alpine Pub.
2. Reigel, R.J., Hakola, S.E. (1996) Illustrated Atlas of Clinical Equine Anatomy, Vol. 2 . Marysville: Equistar Pub.
3. Squires, E.L. (2003). Understanding the Stallion: your Guide to Horse Health Care and Management. Lexington: The Blood Horse Inc.
4. Schwiezer, C.M. (1998). Understanding the Broodmare: your guide to horse health care and management. Lexington: The Blood Horse Inc.
5. Schwiezer, C.M., Hillman, R.B. (1999). Understanding Breeding Management: your guide to horse health care and management. Lexington: The Blood Horse Inc.

6. Cable, C.S. (1998) Understanding the Foal: your guide to horse health care and management . Lexington: The Blood Horse Inc.
7. Giffin, J.M., Darling, K. (2004) Veterinary Guide to Horse Breeding. New York: Howell Book House.

**Lab Manual:**

None

**Other Resources:**

All course material is available on CourseLink.

**Additional Costs:**

Student must provide steel-toed boots for labs occurring in the teaching barn.

**Course Policies**

**Grading Policies**

The assignment of grades is based on the clearly defined standards published in the Undergraduate Calendar as follows:

- **80 - 100 (A) Excellent.** An outstanding performance in which the student demonstrates a superior grasp of the subject matter, and an ability to go beyond the given material in a critical and constructive manner. The student demonstrates a high degree of creative and/or logical thinking, a superior ability to organize, to analyze, and to integrate ideas, and a thorough familiarity with the appropriate literature and techniques.
- **70 - 79 (B) Good.** A more than adequate performance in which the student demonstrates a thorough grasp of the subject matter, and an ability to organize and examine the material in a critical and constructive manner. The student demonstrates a good understanding of the relevant issues and a familiarity with the appropriate literature and techniques.
- **60 - 69 (C) Acceptable.** An adequate performance in which the student demonstrates a generally adequate grasp of the subject matter and a moderate ability to examine the material in a critical and constructive manner. The student displays an adequate understanding of the relevant issues, and a general familiarity with the appropriate literature and techniques.
- **50 - 59 (D) Minimally Acceptable.** A barely adequate performance in which the student demonstrates a familiarity with the subject matter, but whose attempts to examine the material in a critical and constructive manner are only partially successful. The student displays some understanding of the relevant issues, and some familiarity with the appropriate literature and techniques.
- **0 - 49 (F) Fail.** An inadequate performance

Evaluation criteria used gives a measure quality of performance and not merely activity, including consideration of the student's ability to use correctly and effectively the language appropriate to the assignment. Assignments must be submitted electronically via CourseLink unless otherwise noted. Due dates and times are explicitly stated in the assignment information. Assignments are graded by rubrics, which are available on CourseLink.

In this course, your instructor will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph. All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site. A major benefit of using Turnitin is that students will be able to educate and empower themselves in preventing academic misconduct. In this course, you may screen your own assignments through Turnitin

as many times as you wish before the due date. You will be able to see and print reports that show you exactly where you have properly and improperly referenced the outside sources and materials in your assignment.

All tests, assignments, reports, etc., will be returned to, or discussed with students, without undue delay and in any case before the last day of the examination period.

**Missed Assessments & Classes:** Alternate assessments will be offered only to students with documented medical, psychological, or compassionate reasons for missing a scheduled assessment [see Academic Consideration]. It is the student's responsibility to obtain notes/ learning materials from a missed class. Late assignments without the aforementioned documentation will be accepted with a penalty of 20% per day, up to a maximum of three days late. Assignments submitted later than 3 days will not be accepted and will result in a zero grade.

#### **Course Policy on Group Work:**

Assignments are expected to be individual work unless otherwise noted, and are graded as such.

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

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

### **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](mailto: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**

All course information, grades and assignments are available on Courselink. Appropriate attire is expected when attending labs (i.e. steel-toed boots when in the barn, long pants, closed-toed shoes, long hair tied back).