



BIOM*4110 Mammalian Reproductive Biology

Winter 2020

Section(s): 01

Department of Biomedical Sciences

Credit Weight: 0.50

Version 1.00 - December 03, 2019

1 Course Details

1.1 Calendar Description

This multidisciplinary course provides an introduction to various aspects of mammalian reproduction of medical and veterinary significance. The course will cover the normal physiology and gross and micro anatomy of the female and male reproductive systems. Placentation, pregnancy and post-partum physiology will also be addressed. The impact of the reproductive biology on social and economic issues will be discussed.

Pre-Requisites: (1 of BIOM*3010, HK*3401, HK*3501, ZOO*2090), (1 of BIOM*3200, HK*3810, ZOO*3210, ZOO*3620)

1.2 Timetable

Timetable is subject to change. Please see WebAdvisor for the latest information.

1.3 Final Exam

Exam time and location is subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Instructor: Pavneesh Madan Dr.
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Office: OVC 3605

3 Learning Resources

3.1 Required Resources

Essential Reproduction (7TH Edition) by Johnson MH and Everitt BJ (2013) (Textbook)

Because of rapid advancements in reproductive biology, no single textbook appears to be sufficiently up-to-date or comprehensive enough to be recommended for the course.

However, we will use Essential Reproduction (7TH Edition) by Johnson MH and Everitt BJ (2013) as a base model for this course.

3.2 Recommended Resources

Guyton AC (2016) Textbook of Medical Physiology, 13th Edition Philadelphia. (Textbook)

Cunningham JG (2012) Textbook Of Veterinary Physiology, 5th Edition. Philadelphia. (Textbook)

Knobil E and Neill JD (2005) Physiology Of Reproduction, Academic Press, San Diego, CA. (Textbook)

Reece WO (2004) Duke's Physiology Of Domestic Animals, 12th Edition, Cornell University Press. (Textbook)

Yongquist RS and Threlfall WR (2007) Current Therapy In Large Animal Theriogenology, 2nd Edition, Saunders. (Textbook)

Senger PL (2005) Pathways To Pregnancy And Parturition, 2nd Edition, Current Conceptions Inc. (Textbook)

3.3 Additional Resources

Course Manual (Notes)

Each lecturer will provide handouts, which will be posted on Courselink, as per the policy of the university. Students will be expected to be familiar with the manual content so as to be able to answer questions based on the material.

Reproduction (official journal of the Society for Reproduction and Fertility) (Article)

The mini reviews and supplements provide excellent summaries on a variety of topics related to reproductive biology and medicine.

Biology of Reproduction (official journal of the Society for the Study of Reproduction) (Article)

The mini reviews and supplements provide excellent summaries on a variety of topics related to reproductive biology and medicine.

Animal Reproduction Science (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Biology Of Reproduction (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology,

embryology and biotechnology.

Dom. Animal Endocrinology (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Endocrinology (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Fertility And Sterility (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Human Reproduction (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Reproduction (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Reproductive Biology (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Repro. Biol. & Endocrinology (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Repro. Fertility & Dev. (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Repro. In Domestic Animals (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

Theriogenology (Article)

Consult for the latest comprehensive reviews on many aspects of reproductive biology, embryology and biotechnology.

4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. The fundamental anatomy, histology, physiology and endocrinology of the male and female reproductive systems in various mammalian species.
2. The basic patterns and periodicity of reproductive processes in mammals.

3. The basic diagnostic methods and approaches to solving problems in reproductive sciences/medicine.
 4. Major ethical and socio-economic aspects of reproductive biology.
 5. The basic principles of scientific communication, oral and written, pertaining to reproductive physiology/medicine.
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5 Teaching and Learning Activities

Lectures: Monday and Wednesday 9:30-11:20 a.m. (Rm 1642 OVC).

Methods of Presentation

The materials and issues will be presented in the form of lectures, labs and/or demonstrations. In addition, there will be a visit to the Toronto Zoo to showcase role of reproductive technologies in conservation and propagation of species.

PLEASE CHECK THE CourseLink SITE FOR UPDATED LECTURE TOPICS AND PRESENTER SCHEDULE

6 Assessments

Methods of Evaluation

Students will be expected to actively participate in the regular classroom discussions. They will also prepare oral and written presentations and reports. One of the course objectives is to provide all students with the opportunity to learn the basics of reproductive biology and then apply that understanding to the solving of reproductive problems. Thus, evidence of sufficient command of the basic science will be an integral part of all evaluations. Utilization of the current scientific literature in preparing the presentations will be expected.

6.1 Assessment Details

Classroom & Social Media Participation/Discussion (5%)

Students are strongly encouraged to participate in class discussions. They will be expected to provide evidence of having read both popular and scientific literature and to have thought about varying aspects of reproductive biology. The grade will recognize and reward your effort in reading, thinking and presenting your ideas in class

Ignite Talks (Student Presentations) (20%)

Ignite (Ignite Talks) is a series of events where speakers have five minutes to talk on a subject accompanied by 20 slides, for 15 seconds each, automatically advanced.

However for this course the modified Ignite talks will be 10 minutes long. The speaker will be allowed to use maximum of 40 slides without any automatic advancement.

Students are encouraged to submit drafts of the presentations for a feedback before the day of presentation.

Ignite Talks will be graded based on the following criteria:

Content, analysis of facts and synopsis of current understanding of the subject, organization of material, quality of visual aids, delivery of scientific content and brevity.

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Students are encouraged to submit drafts of the presentations for a feedback before the day of presentation.

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Content, analysis of facts and synopsis of current understanding of the subject, organization of material, quality of visual aids, delivery of scientific content and brevity.

Repro Dragon's Den (Student Group Presentations/Written Proposals) (25%)

In consultation with the instructors, students (divided into groups) will work on a topic in reproductive biology. The students should be assimilating the material presented in the course and come up with a new idea for a scientific grant or a business idea. The written report can be in form of a 5-page scientific grant proposal (NSERC format) or a 5-page business proposal. Both the proposals should be written in grammatically correct English.

Scientific grant proposals/Business proposals will be graded on the following criteria:

Content, identification of problem, innovativeness for addressing the solution, evidence of analysis and thoughtful consideration to previous literature, clarity of presentation, grammar and spellings.

Repro Amazing Race (20%)

Team of two will race in competition to answer puzzles/questions based on exhibits related to reproductive biology across OVC. The exhibits would be related to topics covered during lectures and will help to review the whole course before the final exam. After answering the questions/solving a puzzle at the station, they will get a clue to go to the next station on campus and follow the same procedure. A total of six stations will be set up. The team to answer all questions correctly in the shortest possible time will be winners and will be awarded special prize donated by some Sponsors.

Final Exam (30%)

This exam will comprise of multiple choice questions designed to test the students integration of the material presented up to this time. In addition, some of the questions will test logic, ability of student to analyze, present or discuss scientific data from scientific literature.

7 Course Statements

7.1 Examination Guideline

Eligibility

Student eligibility for this process is at the discretion of the Chair. For students with three or more exams in a 48-hour period in the first week of the final exam schedule (which includes an exam in a course offered by the Department of Biomedical Sciences) the department will offer a second writing of the exam in the second week of the final exam period. This policy would not apply to exams requiring complicated set-up, such as lab exams.

Process

The second sitting will be scheduled by the Chair's Office and all such second writings will be offered all together only on one day and time to be decided by the Chair and invigilated by the course instructor and by the course TA (if one is assigned and deemed necessary) or invigilator. Following completion of the exam, the instructor/TA will mark the final exam and submit the grade to the registrar no later than 7 days after the last final exam is scheduled that semester.

Eligible students can request this privilege by sending an e-mail message **by the 40th class day** to the Department Chair. The Chair will consult with the instructor/course coordinator with a copy to Kim Best (kbestb@uoguelph.ca) regarding consideration of the request. In their request, the student MUST list their complete final exam schedule and a verbatim copy of the following statement:

"This is an accurate representation of my final exam schedule for the current semester as issued by the Registrar's office. I understand that if I have misrepresented my exam schedule and am granted permission to write the [course code] exam at the later date on that basis, I will have violated the University's academic misconduct policy which may result in a grade of zero for the [course code] final exam. I understand that steps will be taken to verify my course enrollment and final exam schedule."

Although we will make every effort possible to accommodate these requests, circumstances may not allow accommodation in all situations, and so we cannot guarantee that requests will be approved. All email requests will receive a written response from the Chair regarding status of approval.

8 University Statements

8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

8.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

8.4 Copies of Out-of-class Assignments

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.

8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is

required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

8.6 Academic Integrity

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 encourages academic integrity. 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.

Undergraduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

8.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma

programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>
