



# ANSC\*6400 Mammalian Reproduction

Winter 2020

Section(s): C01

Department of Animal Biosciences

Credit Weight: 0.50

Version 1.00 - December 17, 2019

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## 1 Course Details

### 1.1 Calendar Description

Discussions and applications of methodology for collection and examination of gametes and embryos and for measurements of hormones in biological fluids.

### 1.2 Course Description

**Calendar description:** Discussions and applications of methodology for collection and examination of gametes and embryos and for measurements of hormones in biological fluids.

Note that the content has been modified to extend beyond the collection and examination of gametes and now includes all aspects of mammalian reproduction.

### 1.3 Timetable

Lectures Tuesday, Thursday 10:00 a.m. – 11:20 a.m. ANNU 030

### 1.4 Final Exam

N/A

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## 2 Instructional Support

### 2.1 Instructional Support Team

<b>Instructor:</b>	Gregoy Bedecarrats
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<b>Office Hours:</b>	by appointment

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## 3 Learning Resources

### 3.1 Additional Resources

#### Course Content Definitions (Other)

**Reproduction:** “the process by which plants and animals give rise to offspring and which fundamentally consists of the segregation of a portion of the parental body by a sexual or an asexual process and its subsequent growth and differentiation into a new individual”  
*Merriam-Webster Online Dictionary.*

**Mammalian:** any member of the group of vertebrate animals in which the young are nourished with milk from special mammary glands of the mother.

**Placental mammal:** any member of the mammalian group characterized by the presence of a placenta, which facilitates exchange of nutrients and wastes between the blood of the mother and that of the fetus.

#### **Mammalian Reproduction:**

**Reproductive organs:** ontogeny, gametogenesis

**Reproductive cycles:** ovarian, menstrual

**Heat; Copulation**

**Fertilization**

**Implantation/Attachment**

**Embryogenesis**

**Parturition**

**Lactation**

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## 4 Learning Outcomes

## 4.1 Course Learning Outcomes

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

1. By the end of these course students will be familiar with the general concepts and processes involved in mammalian reproduction. Students will also have acquired basic theoretical knowledge of techniques routinely used for the study of reproduction (molecular, cellular and hormone assays).
  2. Based on personal interest, students will be able to understand and discuss in depth a specific topic related to mammalian reproduction (after summarizing the state of knowledge in that specific area, students will challenge current concepts and propose a novel and innovative experimental approach to further advance research).
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## 5 Teaching and Learning Activities

### 5.1 Lecture

**Topics:** Lecture Content

The purpose of lectures is mainly to refresh students on general anatomical structures of the reproductive system, physiological events associated with reproduction, and general technique used. In addition, specific lectures will be given by invited speakers based on students' interests.

**Tue, Jan 7, 10:00 AM - 11:20 AM**

**Topics:** Introduction / Overview of the semester

**Thu, Jan 9, 10:00 AM - 11:20 AM**

**Topics:** Sexual differentiation/germ cell formation

**Tue, Jan 14, 11:20 AM**

**Topics:** Male reproductive system (testis/spermatogenesis)

**Thu, Jan 16, 10:00 AM - 11:20 AM**

**Topics:** Female reproduction (general anatomy)

**Tue, Jan 21, 10:00 AM - 11:20 AM**

**Topics:** Female reproduction (ovarian cycle)

**Thu, Jan 23, 10:00 AM - 11:20 AM**

**Topics:** Female reproduction (uterine/menstrual cycle)

**Tue, Jan 28, 11:20 AM**

**Topics:** Fertilization/implantation

**Thu, Jan 30, 10:00 AM - 11:20 AM**

**Topics:** Embryogenesis/pregnancy

**Tue, Feb 4, 11:20 AM**

**Topics:** Parturition/lactation

**Thu, Feb 6, 11:20 AM**

**Topics:** Catch-up lecture

**Tue, Feb 11, 10:00 AM - 11:20 AM**

**Topics:** Catch-up lecture

**Thu, Feb 13, 10:00 AM - 11:20 AM**

**Topics:** Practice journal club presentation by me!

**Mon, Feb 17 - Fri, Feb 21**

**Topics:** Reading Week- No Class

**Tue, Feb 25, 10:00 AM - 11:20 AM**

**Topics:** Journal club by students (2-3 students)

**Thu, Feb 27, 10:00 AM - 11:20 AM**

**Topics:** Guest lecture / Special topic I

**Tue, Mar 3, 11:20 AM**

**Topics:** Journal club by students (2-3 students)

**Thu, Mar 5, 11:20 AM**

**Topics:** Guest lecture / Special topic II

**Tue, Mar 10, 11:20 AM**

**Topics:** Journal club by students (2-3 students)

**Tue, Mar 17, 10:00 AM - 11:20 AM**

**Topics:** Guest lecture / Special topic III

**Tue, Mar 24, 10:00 AM - 11:20 AM**

**Topics:** Journal club by students (2-3 students)

**Thu, Mar 26, 10:00 AM - 11:20 AM**

**Topics:** Guest lecture / Special topic IV

**Tue, Mar 31, 10:00 AM - 11:20 AM**

**Topics:** Journal club by students (2-3 students)

**Thu, Apr 2, 10:00 AM - 11:20 AM**

**Topics:** First round of final presentations

**Tue, Apr 7, 10:00 AM - 11:20 AM**

**Topics:** Second round of final presentations

**Thu, Apr 9, 10:00 AM - 11:20 AM**

**Topics:** Third round of Final Presentations

**Tue, Apr 14, 10:00 AM - 11:20 AM**

**Topics:** Fourth round of Final Presentations

## 6 Assessments

### 6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Journal club (preparation, presentation, discussion)	20
Review (written Report)	35
Proposal (presentation)	35
Class Participation	10
Total	100

### 6.2 Assessment Details

#### **Journal club (preparation, presentation, discussion) (20%)**

**Due:** Starting end of February (after winter break)

Students will select an article based on technical or theoretical challenges, and after a brief summary presentation, the paper will be open for discussion. Up to three articles (3 students) will be covered per session. Tuesdays, 10:00 – 11:20 starting end of February (after winter break).

#### **Review (written Report) (35%)**

**Due:** March 15

Each student will select a specific topic based on his/her own interest. Students will be responsible to search the literature relevant to the topic, produce a written review (min 5 pages maximum 8 pages excluding at least 20 references). Due date: Friday March 13.

#### **Proposal (presentation) (35%)**

**Due:** Early April (last week of class/exam period).

After reviewing their specific topic, students will be asked to advance knowledge by proposing a novel experimental paradigm. This proposal will be presented in front of the class in a formal powerpoint presentation (20 min presentation maximum with 10 min for discussion). The presentation should include an introduction/summary (based on the literature review), a statement of rational and objectives, a technical approach (materials and methods), expected results, and potential pitfalls.

Note that it should not correspond to your MSc project but rather push the envelope if you had access to significant budget and state of the art equipment. Presentation dates: early April (last week of class/exam period).

#### **Class Participation (10%)**

**Date:** Ongoing

## 7 University Statements

### 7.1 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.

### 7.2 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>

### 7.3 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>

### 7.4 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.

## 7.5 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>

## 7.6 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>

## 7.7 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.

## **7.8 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>

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