

Course Outline Form: Winter 2018

General Information

Course Code: ANSC*6400

Course Title: Mammalian Reproduction

Course Description:

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

Credit Weight: 0.5

Academic Department (or campus): Animal Biosciences

Campus: Guelph

Semester Offering: Winter 2018

Class Schedule and Location: Lectures Tuesday, Thursday 10:00 a.m. – 11:20 a.m. ANNU 030

Instructor Information

Instructor Name: Grégoy Bédécarrats

Instructor Email: gbedecar@uoguelph.ca

Instructor Phone and Extension: 519-824-4120 ext. 53692

Office location and office hours: by appointment ANNU 223

GTA Information

GTA Name: N/A

GTA Email: N/A

GTA office location and office hours: N/A

Course Content

Definitons:

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

Embryogenesis

Parturition

Lactation

Specific Learning Outcomes:

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).

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).

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.

Lecture Date	Description
Tuesday Jan 9	Introduction, overview of reproduction
Thursday Jan 11	Sexual differentiation/germ cell formation
Tuesday Jan 16	Male reproductive system (testis/spermatogenesis)
Thursday Jan 18	Female reproduction (general anatomy)
Tuesday Jan 23	Female reproduction (ovarian cycle)
Thursday Jan 25	Female reproduction (uterine/menstrual cycle)
Tuesday Jan 30	Fertilization/implantation
Thursday Feb 1	Embryogenesis/pregnancy
Tuesday Feb 6	Parturition/lactation
Thursday Feb 8	Catch-up lecture
Tuesday Feb 13	Catch-up lecture
Thursday Feb 15	Catch-up lecture
Feb. 19 – 25	Reading Week
Tuesday Feb 27	Guest lecture / Special topic I
Thursday March 1	Practice journal club presentation by me!
Tuesday March 6	Guest lecture / Special topic II
Thursday March 8	Journal club by students (2-3 students)
Tuesday March 13	Guest lecture / Special topic III
Thursday March 15	Journal club by students (2-3 students)
Tuesday March 20	Guest lecture / Special topic IV
Thursday March 22	Journal club by students (2-3 students)
Tuesday March 27	First round of final presentations
Thursday March 29	Journal club by students (2-3 students)
Tuesday April 3	Second round of final presentations
Thursday April 5	Third round of final presentations
Tuesday April 10	Forth round of presentations (if necessary)

Labs:

N/A

Seminars:

N/A

Course Assignments and Tests:

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
Journal club (preparation, presentation, discussion)	Starting end of February (after winter break)	20	understand and discuss a specific topic related to mammalian reproduction
Review (written Report)	March 6	35	understand and discuss in depth a specific topic related to mammalian reproduction
Proposal (presentation)	Early April (last week of class/exam period).	35	acquired basic theoretical knowledge of techniques routinely used for the study of reproduction
Class participation	Ongoing	10	understand the general concepts and processes involved in mammalian reproduction.

Additional Notes:**Journal club:**

Students will select an article based on technical or theoretical challenges, and after a brief summary presentation, the paper will be open for discussion. Two to three articles (2 to 3 students) will be covered per session. **Thursdays, 10:00 – 11:20 Room ANNU306 starting end of February (after winter break).**

Specific topic review:

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 including at least 20 references). **Due date: Monday March 6.**

Experimental design (proposal):

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 (15 min presentation maximum with 5 min for discussion). The presentation should include an introduction/summary (based on the literature review), a statement of rationale 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).**

Final examination date and time: N/A

Final exam weighting: N/A

Course Resources**Required Texts:**

N/A

Recommended Texts:

N/A

Lab Manual:

N/A

Other Resources:

N/A

Field Trips:

N/A

Additional Costs:

N/A

Course Policies

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

Presentations which are made in relation to course work—including lectures—cannot be recorded in any electronic media without the permission of the presenter, whether the instructor, a classmate or guest lecturer.

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 II \(Academic Accommodation for Students with Disabilities, Guidelines and Procedures\) of the Graduate Program 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 II \(General Regulations\) of the Graduate 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 I \(Schedule of Dates\) of the Graduate 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.

Additional Course Information

N/A