

AN SCI 434 section 001 Syllabus

Reproductive Physiology



COURSE INFORMATION

Reproductive Physiology

AN SCI 434 001 (3 Credits)

2020 Fall (1212) [1212]

Description

Principles of reproductive physiology, improvement of fertility, and artificial insemination. Enroll Info: Jr st, An Sci/Dy Sci 101, or Zool 101 & 102; Zool 151 & 152 recommended

Prerequisite(s)

None

Breadths

B - Biological Science

Instruction Mode

Online Only

Section Level Com B

False

Department: Animal Sciences

College: Agricultural and Life Sciences

Canvas Course URL

<https://canvas.wisc.edu/>



2020 Fall (1212) [1212]

Term Start Date: Wednesday, 2-Sep-2020 **Term End Date:** Monday, 1-Feb-2021

Location and Schedule: ONLINE 12:00 AM-12:00 AM

CRN: 604005216

How the Credit Hours are Met

The credit standard for this course is met by an expectation of a total of 135 hours of student engagement with the courses learning activities (45 hours per credit), which include regularly scheduled instructor: student meeting times [Lab sections 301, 302, 303 meet in person at regularly scheduled time; Lab section 304 is online only with the time for online contact to be established], reading, writing, problem sets, studio time, labs, field trips, and other student work as described in the syllabus.[Specific activities include 25, 50 min. podcast lectures (21 hours), textbook reading and study of lecture material (3 hours/week, 45 hours), lab (2 hours/week, 30 hours), lab associated work with animals, lab write-ups, lab associated projects (2 hours/week, 30), additional review study for exams (9 hours).]

INSTRUCTORS AND TEACHING ASSISTANTS

Instructor





JOHN PARRISH
✉ JJPARRIS@WISC.EDU

Instructor Availability


OnLine office hours are Thursday 12:00PM - 2:00PM via [BBCollaborate Ultra](#) . Additional times will be added if needed. For live lab sections (301,302, and 303) instructor is present in the lab section and additional meetings can be set up as needed. For the online lab section (304) use the online office hours. Additional online office hours and reviews will occur prior to exams and announced in canvas.

TA Office Hours


TA - Ahmed Said Aly, [Ahmed Said Aly](mailto:asaly@wisc.edu)<asaly@wisc.edu>

Office hours will be Monday from 3 - 5 via [BBCollaborate Ultra](#).


GRADING AND COURSE MATERIALS

 Students will identify structures and function of reproductive anatomy in the male and female of all livestock species, humans and pets. Further they will be able to extrapolate to unknown species related to specific species studied in class.


S10360

 Students will be able to identify hormones, their production site, physiology impacts and how to manipulate specific hormones to control reproduction either positively or negatively.

S10361

 Students will be able to summarize critical components of reproductive technologies involved in breeding, semen collection, gamete biology and embryonic development. Demonstration of ability to monitor and manipulate cyclicity, artificial insemination, and pregnancy detection in both horses and pigs will be accomplished.


S10362

 Students will be able to summarize events in reproduction from the cellular to whole animal level in livestock species, humans, pet species and wildlife.


S10363

 Students will demonstrate ability to communicate via oral, written, podcast, and website modalities.

S10364

 Global learning outcomes: Students will solve problems related to a foreign country or novel regions of the US, 2) display communication skills and in particular, strategies to communicate in a language other than English, and 3) display appreciation of ethical issues in global agriculture, wildlife management, federal grazing lands as they relate to reproduction manipulation.

S10365

 Global learning impacts on students include: 1) illustrate how theory applies to application in the novel environment of a new culture, location, and ethical system, 2) recognize how differences based on cultural and ethnicity impact individuals, and 3) create human capacity for competitiveness in global agriculture.

S10366

 Graduate students will be able to evaluate effective learning outcomes of a specific lab and access its impact on undergraduate students.

S10367



Grading

Grade Structure

Exams - given online	
1st lecture Exam	100
2nd lecture Exam	100
3rd lecture Exam (given during final exam period)	104
Oral Exam (comprehensive)	80
Lab quizzes given online (12 at 10 points each)	120
Mexico Lab Project	
Progress points	30
Final project website written	80
Final project audio	30
Lab Project Questions	20
Experiences with horses and pigs	50
Lab Exercises	
Weekly lab posting exercise (10 at 5 points each)	50
Pig case lab (lab 10)	50
Pregnancy problem case study	10
Lab Extra – presentations and write-ups (10 points each)	40
Total Points	864

Changes to these grade items are at the discretion of the instructor.

Final Grade

This will be assigned based on a percentage of the total possible points available. Grades are recorded simply as a score on a project, exam or lab exercise and then totaled at the end and expressed as a percentage of total available points. The final grade assignments will be made according to the following distribution:

A (100-93%), AB (88-92.99%), B (83-87.99%), BC (75-82.99%), C (65-74.99%), D (55-64.99%), F (<55%).

Grades are not curved or modified from the above scale. For example, the bottom A is 93%, that is $(0.93 * 864)$ or 803.52 points, 803 points is 92.94% and thus an AB. It is important to note that there is no rounding used in assigning the final grade. **In general, no bonus points are offered in this class.**

Attendance is not part of the grade unless it is a presentation. Group peer evaluations do occur in this course and are recorded as deductions from the possible points listed above if a group member does not participate equally on a project.

Graduate Students

Graduate students are graded the same as undergraduates but require submission of a project agreed upon with the instructor in advance. In general this will be an evaluation of specific learning outcomes/objectives in specific labs and if they were successful.

Discussion Sessions

Only for Frequently asked questions and available in Canvas.

Laboratory Sessions



General Procedures

Due to COVID 19 precautions, you must wear a face mask to lab. We will provide you with nitrile gloves as you enter class room.

For live lab sections (301-303) students work in groups of up to 4 students to complete the lab exercise but turn in an individual summary exercise of each lab. All submissions are done in canvas. The Mexico project is done as a group project although these groups are semester long. All groups are assigned by the instructor via Canvas.

In case you miss a live lab, complete as if it was an online lab. In general you cannot attend another lab without prior instructor approval.

Lab activities due dates - For all labs, these are due the following Monday at 11:59 pm in canvas assignments.

Special instructions for the online lab section (304): We do not think online groups each week will work. You will therefore work through the lab by yourself. You can however form a study group within the section 304 through canvas collaborations, bbcollaborate ultra or discussion sections if you wish (contact instructor for help). Submission of the summary exercise will work in a similar manner to the live lab sections. When needed, data of experimental results and supplemental videos will be provided for you to use. Use instructor office hours if you have questions.

Required Textbook, Software, & Other Course Materials

Textbook

Pathways to Pregnancy and Parturition, P.L. Senger, 3rd edition, 2012. While you may use older versions, you will be held to this version for exams. E-text access may be purchased from publisher for \$100 in 2020 <<http://www.currentconceptions.com>>. Web login worked best in my test of the E-text. Purchasing used copies however may be cheaper.

EXAMS, QUIZZES, PAPERS & OTHER MAJOR GRADED WORK

Exams, Quizzes, Papers & Other Major Graded Work

All exams and quizzes are online via canvas in this course. You will be sent access codes for exam shortly before the exam so you must have email contact via the UW email address available. The exam and quizzes will be taken in canvas. These are not open book exams and if you deviate from the exam on your computer, you will receive a 0 as this shows up in our scans of you taking the exam. You will have 1.5 hours to complete lecture exams and 5 minutes to complete the lab/lecture quizzes. The exams are designed for 1 hour so the 1.5 hour can accommodate any students with disability exemptions. Similarly the quizzes are designed for 3 minutes so the 5 minutes should also be adequate. You will have 15 minutes to complete the oral exam (see below).

Lab/Lecture quizzes - Tuesday of each week and access between 8 AM and 12 PM (noon), ie. in the morning. Covers material from the previous week.

Lecture exam 1 - 10/10/2020 - Must be taken between 7 AM and 5 PM. Covers lectures 0-10.

Lecture exam 2 - 11/12/2020 - Must be taken between 7 AM and 5 PM. Covers lectures 11-19.

Oral exam - Must be taken between Nov. 30 and Dec 10, 2020 (may be potentially available earlier). Instructions will be distributed in canvas. This is a cumulative exam but only 1 question per student. Potential questions distributed prior to Thanksgiving that cover the entire class (lecture only). You may prepare notes for questions in advance but you will have 5 minutes to prepare before recording oral exam once you get the question identified for you. Currently we are unsure of the recording method and may use BBCollaborate Ultra or allow some other method of recording.

Summary exam period is 12/18/2020 at 12:25 - 2:25 PM. The exam during this period only covers the last 1/3 of the class (lectures 20-25) and is not comprehensive. It will include questions from Mexico project as submitted by groups in your specific lab section.

There is a semester long project that is based on some aspect of reproduction in Mexico. It will be explained in lab but is eventually due as a website and public service audio podcast on the last lab session in the semester. The audio podcast will be delivered by the instructor for group projects in that lab section. Note that in 2020, the last 2 lab sessions are online only due to COVID 19 restrictions.

Homework & Other Assignments

Homework in this class consists of lab summarizations/activities (explained in class), semester projects that are group activities submitted digitally in canvas assignments. It is expected that all students in a group contribute equally to a submission.

Additional individual assignments are also submitted digitally in canvas assignments but must be individual work.

OTHER COURSE INFORMATION

Other Course Information

TENTATIVE SCHEDULE OF COURSE EVENTS – all lectures are on-line, lab 0, 11 and 12 are on-line only with remaining labs (1-10) in person. Lab section 304 is totally online. Course materials can be accessed via canvas or directly at <http://www.ansci.wisc.edu/jjp1/ansci_repro/index.html> to access specific lectures and labs for 2020.

Tentative Schedule (Subject to change) - Fall 2020

Week	Date	Title	Reading in Text
0	Sept 2-4	Lec 0 - Introduction, course structure course access (On-Line only)	
	Sept 2-4	Lab 0- Introduction and how lab works (on-line as some labs are not on campus prior to Sept 2).	
	Sept 2-4	Lec 1 - Female reproductive tract anatomy	Chapter 1, 2
1	Sept 6	Lec 2 - Comparative female anatomy	Chapter 1, 2
		Lec 3 - Male reproductive tract anatomy	Chapter 3
	Sept 8-9	Lab 1 - Female anatomy, follicular aspiration	
	Sept 8-9	Equine project - Reproductive exam of mare an estrous behavior	
2	Sept 13	Lec 4 - Male reproductive tract comparative and microscopic anatomy	Chapter 3
		Lec 5 - Embryogenesis of the pituitary gland, sexual differentiation of the male and female	Chapter 4
	Sept 15-16	Lab 2 - Male anatomy, epididymal sperm	
	Sept 15-16	Equine Project - Reproductive anatomy of the stallion	
3	Sept 20	Lec 6 and 7- Endocrinology of Reproduction	Chapter 5
	Sept 22-23	Lab 3 - Endocrinology	
4	Sept 27	Lec 8 - Puberty	Chapter 6
		Lec 9 - Reproductive cycles in the female	Chapter 7
	Sept 29-30	Lab 4 - Hormone manipulation, puberty	
5	Oct 4	Lec 10 - Artificial Insemination	Chapter 12, pp 266-269
	Oct 6-7	Lab 5 - Applied anatomy and breed your cows via timed AI	
		Equine project - AI a mare	
	Oct 8	Lecture Exam I (8:00 - 5:00, on-line in canvas, 1.5 hr max, Lectures 0-10)	
6	Oct 11	Lec 11 - Follicular phase of the estrous cycle, follicular waves, oogenesis, ovulation	Chapter 8
		Lec 12a - Luteal phase of the estrous cycle and the menstrual cycle	Chapter 9
		Lec 12b - Estrous Synchronization (Induction of Ovulation)	Chapter 9
	Oct 13-14	Lab 6 - Histology, breed sows	
7	Oct 18	Lec 13 - Spermatogenesis	Chapter 10
		Lec 14 - Epididymal maturation, ejaculation and semen	Chapter 10, 11
	Oct 20-21	Lab 7 - Estrus and endocrine disruption	
		Equine project - Check mare pregnancy	



8	Oct 25	Lec 15a,b - Sexual behavior	Chapter 11
		Lec 16 - Gamete transport	Chapter 12
	Oct 27-28	Lab 8 - Control of female cycles	
9	Nov 1	Lec 17 - Fertilization	Chapter 12
		Lec 18 - Gametogenesis at the chromosomal level: mitosis and meiosis	
	Nov 3-4	Lab 9 - Applied male anatomy, semen collection, semen evaluation, cryopreservation and spermatogenesis	
	Nov 4 - 8	Pig Farrowing view on-line as this becomes available	
10	Nov 8	Lec 19 - Embryo Development	Chapter 13
	Nov 10-11	Lab10 - Impact of the male on meat production: A case scenario in swine	
	Nov 12	Lecture Exam II (8:00 - 5:00, on-line in canvas, 1.5 hr max, Lectures 11-19)	
11	Nov 15	Lec 20 - Placentation and maternal recognition of pregnancy	Chapter 13, 14
		Lec 21 - Pregnancy and fetal development	Chapter 14
	Nov 17-18	Lab10 - Impact of the male on meat production: A case scenario in swine	
12	Nov 22	Lec 22 - Parturition	Chapter 14, 15
	Nov 24-25	Lab 11 - Placentation, fetal membranes and fetal growth	

Thanksgiving Recess Nov. 26 - Nov. 29
Activities after Thanksgiving are online only

13	Nov 29	Lec 23 - Biotechnology	
		Lec 24 - Reproduction of humans	Chapter 16
	Dec 1-2	Lab 12 - Pregnancy, Male Fertility and Parturition (on-line only)	
14	Dec 6	Lec 25 - Reproduction of dogs and cats	Relevant sections of Chapters 2 and 3
	Dec 8-9	Mexico Project Presentations, any remaining written activities due, on-line only.	
	Dec 18	Lecture Exam III (12:25-2:25, on-line canvas, Lectures 20-25, Mexico project questions)	

ACADEMIC POLICIES



OTHER IN-PERSON INSTRUCTIONAL REQUIREMENTS

Practice physical distancing (staying at least six feet apart from others), in both indoor and outdoor spaces, including when entering and exiting building and instructional spaces.

- Monitor symptoms using the [COVID-19 Symptom Tracker](#) daily and, if symptoms exist, stay home and immediately get tested. Free testing is available to the entire campus community including students. Find more [information on testing](#) including on-campus testing locations, getting test results and what to do if you test positive for COVID-19.
- Follow specific guidance on classroom seating and furniture use. "Sit Here Signs" will be placed in classrooms to indicate where students should sit, as well as floor decals to indicate where furniture should be placed and remain.
- Limit the sharing of materials (papers, books, writing utensils, calculators, etc.) with others in class. Any materials brought to class must be taken with you when leaving the classroom.
- Food and beverages are not allowed in instructional spaces. For students who may need access to food or beverages during class (e.g., medical condition, other accommodation or circumstance) may do so while wearing face coverings. If this will be a reoccurring situation, students should discuss their on-going need with their instructor.
- Carefully observe and follow health and safety signs posted inside and outside the classroom.
- Course start and stop times are not staggered. At their discretion, instructors may start or end class a few minutes off schedule to avoid congestion in the halls.

Additionally, students should:

- Clean desks and seats before and after class with the provided classroom supplies and wipe off hands with disinfectant wipes. The provided cleaning supplies will be safe for skin contact; gloves are not needed. See [guidance for cleaning classrooms](#).
- Exit the classroom as quickly as possible to allow the next section to transition in safely
- Be aware of and sensitive to others around you, particularly those who may be struggling or having difficulties.



HOW TO SUCCEED IN THIS COURSE

Resource links to other campus services:

- [University Health Services](#)
- [Undergraduate Academic Advising and Career Services](#)
- [Office of the Registrar](#)
- [Office of Student Financial Aid](#)
- [Dean of Students Office](#)



STUDENTS' RULES, RIGHTS & RESPONSIBILITIES

During the global COVID-10 pandemic, we must prioritize our collective health and safety to keep ourselves, our campus, and our community safe. As a university community, we must work together to prevent the spread of the virus and to promote the collective health and welfare of our campus and surrounding community. [Rights & Responsibilities](#)



UW-MADISON BADGER PLEDGE

[Badger Pledge](#)





UW-MADISON FACE COVERING GUIDELINES

UW-Madison [face covering guidelines](#). While on campus all employees and students are required to [wear appropriate and properly fitting](#) face coverings while present in any campus building unless working alone in a laboratory or office space.

Face Coverings During In-person Instruction Statement (COVID-19)

Individuals are expected to wear a face covering while inside any university building. Face coverings must be [worn correctly](#) (i.e., covering both your mouth and nose) in the building if you are attending class in person. If any student is unable to wear a face-covering, an accommodation may be provided due to disability, medical condition, or other legitimate reason.

Students with disabilities or medical conditions who are unable to wear a face covering should contact the [McBurney Disability Resource Center](#) or their Access Consultant if they are already affiliated. Students requesting an accommodation unrelated to disability or medical condition, should contact the Dean of Students Office.

Students who choose not to wear a face covering may not attend in-person classes, unless they are approved for an accommodation or exemption. All other students not wearing a face covering will be asked to put one on or leave the classroom. Students who refuse to wear face coverings appropriately or adhere to other stated requirements will be reported to the [Office of Student Conduct and Community Standards](#) and will not be allowed to return to the classroom until they agree to comply with the face covering policy. An instructor may cancel or suspend a course in-person meeting if a person is in the classroom without an approved face covering in position over their nose and mouth and refuses to immediately comply.



QUARANTINE OR ISOLATION DUE TO COVID-19

Students should continually monitor themselves for COVID-19 [symptoms](#) and get [tested](#) for the virus if they have symptoms or have been in close contact with someone with COVID-19. Students should reach out to instructors as soon as possible if they become ill or need to isolate or quarantine, in order to make alternate plans for how to proceed with the course. Students are strongly encouraged to communicate with their instructor concerning their illness and the anticipated extent of their absence from the course (either in-person or remote). The instructor will work with the student to provide alternative ways to complete the course work.



COURSE EVALUATIONS

Students will be provided with an opportunity to evaluate this course and your learning experience. Student participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

Digital Course Evaluation (AEFIS)

UW-Madison uses an online course evaluation survey tool, AEFIS. In most instances, you will receive an official email two weeks prior to the end of the semester when your course evaluation is available. You will receive a link to log into the course evaluation with your NetID where you can complete the evaluation and submit it, anonymously. Your participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.



ACADEMIC CALENDAR & RELIGIOUS OBSERVANCES

• See: <https://secfac.wisc.edu/academic-calendar/#religious-observances>



ACADEMIC INTEGRITY STATEMENT

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.



ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES STATEMENT

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA. (See: [McBurney Disability Resource Center](#))

DIVERSITY & INCLUSION STATEMENT

Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.