ANIMAL AND DAIRY SCIENCES, PHD

The Animal and Dairy Sciences Department offers one of the most comprehensive animal and dairy science graduate programs in the country. Faculty interests and research funding span diverse areas of focus with emphases ranging from in vivo and in vitro studies that probe biological relationships at a fundamental mechanistic level to using bioinformatics and data analytics to study fundamental biology and development of decision support tools for dairy farm management. The common thread through these varied interests is the motivation to address current practical issues in animal agriculture.

Development of an individual course of study is flexible to meet the needs of students with varied interests. Fundamental training in basic science fields related to the area of interest is required. There are nine program areas for prospective applicants to review and choose from – see website (https://andysci.wisc.edu/).

Graduate students in the department are a mix of domestic students, from within and outside of Wisconsin, and international students from multiple countries. This diversity brings a national and global perspective to research, instruction, extension, and cultural understanding. Graduates find employment in academic teaching and research, in professional veterinary or medical degree programs, in industrial research in the food and feed industries, in laboratory research programs with governmental and international agencies, private corporations, and in industrial or institutional management positions requiring a high level of scientific training.

The greatest share of PhD training will be achieved through the selection and pursuit of a research project in a discipline of animal and dairy sciences in which the student has a strong interest. Students exercise individual initiative in the planning and execution of research projects. Every effort is made to start students on research problems early in their graduate careers.

RESEARCH FOCUS AREAS

Students may choose to focus on the areas of nutrition, rumen microbiology, reproductive physiology–endocrinology, lactational physiology, genetics, animal breeding, animal behavior, muscle biology, meat science, cell biology, animal health, immunity and toxicology, international agriculture or precision agriculture. Considerable opportunity for study exists in joint programs with bacteriology, toxicology, biochemistry, the interdepartmental graduate program in nutritional sciences, genetics, endocrinology, reproductive physiology training program, food science, physiology, agricultural and applied economics, biometry, cellular and molecular biology, pharmaceutical sciences, chemical and biological engineering, bio-engineering, comparative biosciences, and anatomy.

ADMISSIONS

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UW-Madison is awaiting approval of this new academic program by the Student & Exchange Visitor Program (SEVP) before we are able to accept prospective F-1 students into this program or issue a Form I-20 for this program. International students may apply for this program but will only be considered for admission if or when the program is approved.

Please consult the table below for key information about this degree program's admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program's website.

Graduate admissions is a two-step process between academic programs and the Graduate School. ***Applicants must meet* the minimum requirements (https://grad.wisc.edu/apply/requirements/) *of the Graduate School as well as the program(s).*** Once you have researched the graduate program(s) you are interested in, apply online (https://grad.wisc.edu/apply/).

Requirements	Detail
Fall Deadline	May 1 for international applicants; August 1 for domestic applicants
Spring Deadline	October 1 for international applicants; December 1 for domestic applicants
Summer Deadline	March 1 for international applicants; May 1 for domestic applicants
GRE (Graduate Records Examinations)	Not required but may be considered if available
English Proficiency Test	Refer to the Graduate School: Minimum Requirements for Admission policy: https://policy.wisc.edu/library/UW-1241 (https://policy.wisc.edu/library/UW-1241/).
Other Test(s) (e.g., GMAT, MCAT)	n/a
Letters of Recommendation Required	3

Applicants with satisfactory undergraduate or graduate training in any biological science including emphasis on basic science courses will have suitable backgrounds for graduate studies in Animal and Dairy Sciences. Typically, applicants admitted to the program have GPAs of 3.2 or higher; candidates with a lower GPA may be considered for admission under special circumstances.

DOCUMENTS REQUIRED BY THE PROGRAM

1. Personal statement/reasons for graduate study: see website. (https://grad.wisc.edu/prospective/prepare/statement/)
2. Three letters of recommendation. The process for letters of recommendation is outlined on this website. (https://grad.wisc.edu/admissions/faq/#rec)Letters should be from faculty who are familiar with your academic abilities and goals. Letters from supervisors that provide a character reference are also acceptable. The letters of recommendation should be submitted with the online application.
3. Unofficial transcripts or academic records from each institution attended can be scanned and included with the electronic application. Original official transcripts will be required by the Graduate School if a department recommends applicant for admission.

The Graduate School Checklist outlines what you must include in your electronic application: see website. (https://grad.wisc.edu/admissions/process/)

International students should apply as early as possible. If you are recommended for admission and admitted, extra time will be needed to process visa documents.

FACULTY REVIEW OF COMPLETED APPLICATIONS

The program recommends that applicants contact departmental faculty directly to determine openings in the lab and an interest in their area of research. Applicants are admitted to the program if a faculty member agrees to accept the candidate into their research group and to provide laboratory/desk space and research support, and upon the approval of the Graduate School. The faculty member also decides whether to offer an assistantship to the candidate.

If a faculty member is interested in a completed application, the applicant will be contacted by them personally.

If a faculty member is interested in accepting an applicant, a recommendation for admission will be sent to the Graduate School. The Graduate School will make the final determination for admission. Our graduate faculty have approximately two weeks prior to the start of the semester to recommend domestic applicants and approximately six weeks prior to the start of the semester to recommend international applicants.

OTHER

The Animal and Animal and Dairy Sciences program has a rolling admission policy. Please submit all your application materials by the fall deadline to ensure full review of your application. Applications submitted after the above deadline will be considered if space is still available. Campus visits are recommended along with direct program faculty contact. Funding may be available for a research assistant position from a faculty member if an applicant meets the faculty member's research requirements. No applicant will be seriously considered until they have submitted a complete application to the UW-Madison Graduate School with the supporting documentation.

FUNDING

FUNDING

GRADUATE SCHOOL RESOURCES

The Bursar's Office provides information about tuition and fees associated with being a graduate student. Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM RESOURCES

Financial assistance may be available to qualified individuals in the form of research assistantships, teaching assistantships, or fellowships. Funding does not come from the department, but from the faculty member agreeing to advise the new student. Therefore, students join labs directly instead of doing rotations. Funding is awarded on a competitive basis and may be renewed annually pending satisfactory progress. Terms of these appointments are defined in the letter of offer to the student.

REQUIREMENTS

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MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum degree requirements (https://guide.wisc.edu/graduate/#requirementstext) and policies (https://guide.wisc.edu/graduate/#policiestext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

Mode of Instruction Definitions

Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

Evening/Weekend: Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

Requirements	Detail
Minimum Credit Requirement	51 Credits
Minimum Residence Credit Requirement	32 credits
Minimum Graduate Coursework Requirement	26 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/).
Overall Graduate GPA Requirement	3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/).
Other Grade Requirements	n/a

Assessments and Examinations	Schedule preliminary examination and file request with the Graduate Program Manager at least four weeks prior to the exam date for preliminary examination (by end of fourth semester). Complete written preliminary examination; complete oral preliminary examination (by end of fifth semester). If passed, warrant should be signed and returned to the Graduate School. Student will be a dissertator. Complete research and thesis. Regular meetings with the committee are expected. The student must submit a request for final examination (including documentation that exam requirements have been met) to the Graduate Program Manager at least four weeks prior to the exam date. The thesis must be submitted to the committee at least two weeks prior to the exam. The candidate is required to present an exit seminar on their dissertation research and to subsequently defend the thesis orally. The thesis must be acceptable from both scientific and literary standpoints. The committee administers the thesis defense. Deposit of the doctoral dissertation to the Graduate School is required
Language Requirements	Language requirements are determined on an individual basis with the major advisor/committee and will depend on the area of focus within the program.
Graduate School Breadth Requirement	All doctoral students are required to complete a doctoral minor or graduate/professional certificate. Refer to the Graduate School: Breadth Requirement in Doctoral Training policy: https://policy.wisc.edu/library/UW-1200 (https://policy.wisc.edu/library/UW-1200/).

REQUIRED COURSES

Code	Title	Credits
Animal and Dairy Sciences Foundation		**2**
Students must complete one of the following courses.		
AN SCI 366	Concepts in Genomics	
AN SCI 610	Quantitative Genetics	
DY SCI/ AN SCI 824	Ruminant Nutritional Physiology I	
DY SCI/ AN SCI 825	Ruminant Nutritional Physiology II	
DY SCI/ AN SCI 434	Reproductive Physiology	
AN SCI/ FOOD SCI 515	Commercial Meat Processing	
AN SCI/ FOOD SCI 711	Food Biochemistry	
Seminar Requirement		**2**
Attendance is required at this seminar series by all graduate students in the department. PhD students are required to register for the seminar for credit twice. Although attendance is required, registering for the seminar for credit is done only for the semesters a student presents.		
DY SCI 900	Seminar	
Research Requirement		**8**
Students must complete a minimum of 8 credits.		
AN SCI 990	Research	
Scientific Writing		**2-3**
Students must complete one of the following courses.		
LSC 430	Communicating Science with Narrative	
LSC 560	Scientific Writing	
LSC 561	Writing Science for the Public	
M&ENVTOX 801	Scientific Communication in Molecular & Environmental Toxicology	
Statistics Requirement		**4**
Students must complete one of the following courses.		
STAT/ F&W ECOL 571	Statistical Methods for Bioscience I	
STAT/ F&W ECOL 572	Statistical Methods for Bioscience II	
AN SCI 865	Design and Analysis of Biological Studies	
Teaching Requirement		**3**
Complete one of the following teaching practicum courses. The program requires each student to work with their faculty advisor to identify an opportunity within the department for the student to engage in teaching. This requirement is broadly defined and could include assisting an Animal and Dairy Sciences faculty member with classroom teaching or serving as a teaching assistant (TA) in a course outside of the department.		
AN SCI 799	Practicum in Animal Sciences Teaching	
AN SCI 699	Special Problems	
Elective Requirement		**20-21**
The remainder of the coursework to meet the minimum credit requirement and graduate coursework requirement for the PhD in Animal and Dairy Sciences will be selected to meet the student's specific educational needs as determined through consultation with their advisor and members of their committee.		
Breadth		**9**
In consultation with advisor, students will select the appropriate plan of coursework to meet this requirement.		
Total Credits		**51**

POLICIES

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy/) serve as the official document of record for Graduate School academic and administrative policies and procedures and are updated continuously. Note some policies redirect to entries in the official UW-Madison Policy Library (https://policy.wisc.edu/). Programs may set more stringent policies than the Graduate School. Policies set by the academic degree program can be found below.

MAJOR-SPECIFIC POLICIES

PRIOR COURSEWORK

Graduate Credits Earned at Other Institutions

Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy.

Undergraduate Credits Earned at Other Institutions or UW-Madison

Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy.

Credits Earned as a Professional Student at UW-Madison (Law, Medicine, Pharmacy, and Veterinary careers)

Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy.

Credits Earned as a University Special Student at UW–Madison

Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy.

PROBATION

Refer to the Graduate School: Probation (https://policy.wisc.edu/library/UW-1217/) policy.

ADVISOR/COMMITTEE

All Animal and Dairy Sciences PhD students are admitted to this degree program by their major professor (advisor). Following matriculation, the student and major professor determine membership for their PhD Mentor and Preliminary Examination Committee. A minimum of four faculty members are required for the PhD Mentor and Preliminary Examination Committee. At least three of the committee members must be faculty in the Department of Animal and Dairy Sciences. One faculty member on the Committee must be from outside of the Department of Animal and Dairy Sciences.

The graduate student formally requests the participation of the faculty on the committee. The student, major professor, and the Director of Graduate Studies must approve all members on this committee. Once the committee signs the PhD. Mentor and Preliminary Examination Committee form, the student must turn in the signed copy to the Graduate Program Manager for review. The Graduate Program Manager will submit the form for review and approval by the Director of Graduate Studies. Changes to a PhD Committee must be submitted in writing to the Graduate Program Manager for approval by the Director of Graduate Studies. Students should meet with their committee at least once per year.

Students must meet with their PhD Mentor and Preliminary Examination Committee during their first year to complete their Plan of Study Form (https://andysci.wisc.edu/wp-content/uploads/sites/263/2020/10/Fillable-PhD-requirements-for-Dept-of-Animal-and-Dairy-Sciences.pdf). Courses taken prior to entering the Animal and Dairy Sciences program may meet program requirements if approved by the student's PhD Mentor and Preliminary Examination Committee. Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy. Once the committee has approved the Plan of Study paperwork, the student must turn in the signed copy to the Graduate Program Manager for review. The Graduate Program Manager will submit the form for review and approval by the Director of Graduate Studies. The Plan of Study paperwork must be approved before a student can request their preliminary warrant. Any changes to the certification paperwork must be communicated to the Graduate Program Manager and approved by the Director of Graduate Studies.

CREDITS PER TERM ALLOWED

15 credits

TIME LIMITS

To complete the PhD degree in Animal and Dairy Sciences, successful completion of the following items is required. These must be completed in a timely fashion or the student will not be allowed to register. Please note that minimum requirements are provided, however successful completion of the PhD degree requires achievement of the standing of demonstrated scientist, through your PhD program and by making a significant research contribution to the scientific literature.

- By end of 2nd semester: 1) form a PhD Mentor and Examination Committee, 2) meet with your Mentor and Examination PhD Committee 3) obtain approval for coursework and immediate research plans.
- By end of 4th semester: schedule preliminary examination and file request for preliminary examination.
- By end or 5th semester: 1) complete written preliminary examination 2) complete oral preliminary examination 3) if written and oral preliminary examinations are passed, warrant should be signed and returned to Graduate School. You will be a dissertator.

Expectations for dissertators:

- Complete research and thesis.
- Meet with Committee regularly.
- Submit request for final examination (includes documentation that exam requirements have been met).
- Successfully complete Final Defense and Examination.

Refer to the Graduate School: Time Limits (https://policy.wisc.edu/library/UW-1221/) policy.

GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (https://doso.students.wisc.edu/bias-or-hate-reporting/)
- Graduate Assistantship Policies and Procedures (https://hr.wisc.edu/policies/gapp/#grievance-procedure)

- Hostile and Intimidating Behavior Policies and Procedures (https://hr.wisc.edu/hib/)
  - Office of the Provost for Faculty and Staff Affairs (https://facstaff.provost.wisc.edu/)
- Employee Assistance (http://www.eao.wisc.edu/) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (https://employeedisabilities.wisc.edu/) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (https://grad.wisc.edu/) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (https://compliance.wisc.edu/) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office Student Assistance and Support (OSAS) (https://osas.wisc.edu/) (for all students to seek grievance assistance and support)
- Office of Student Conduct and Community Standards (https://conduct.students.wisc.edu/) (for conflicts involving students)
- Ombuds Office for Faculty and Staff (http://www.ombuds.wisc.edu/) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (https://compliance.wisc.edu/titleix/) (for concerns about discrimination)

College of Agricultural and Life Sciences: Grievance Policy

In the College of Agricultural and Life Sciences (CALS), any student who feels unfairly treated by a member of the CALS faculty or staff has the right to complain about the treatment and to receive a prompt hearing. Some complaints may arise from misunderstandings or communication breakdowns and be easily resolved; others may require formal action. Complaints may concern any matter of perceived unfairness.

To ensure a prompt and fair hearing of any complaint, and to protect the rights of both the person complaining and the person at whom the complaint is directed, the following procedures are used in the College of Agricultural and Life Sciences. Any student, undergraduate or graduate, may use these procedures, except employees whose complaints are covered under other campus policies.

1. The student should first talk with the person at whom the complaint is directed. Most issues can be settled at this level. Others may be resolved by established departmental procedures.
2. If the student is unsatisfied, and the complaint involves any unit outside CALS, the student should seek the advice of the dean or director of that unit to determine how to proceed.
   a. If the complaint involves an academic department in CALS the student should proceed in accordance with item 3 below.
   b. If the grievance involves a unit in CALS that is not an academic department, the student should proceed in accordance with item 4 below.
3. The student should contact the department's grievance advisor within 120 calendar days of the alleged unfair treatment. The departmental administrator can provide this person's name. The grievance advisor will attempt to resolve the problem informally within 10 working days of receiving the complaint, in discussions with the student and the person at whom the complaint is directed.
   a. If informal mediation fails, the student can submit the grievance in writing to the grievance advisor within 10 working days of the date the student is informed of the failure of the mediation attempt by the grievance advisor. The grievance advisor will provide a copy to the person at whom the grievance is directed.
   b. The grievance advisor will refer the complaint to a department committee that will obtain a written response from the person at whom the complaint is directed, providing a copy to the student. Either party may request a hearing before the committee. The grievance advisor will provide both parties a written decision within 20 working days from the date of receipt of the written complaint.
   c. If the grievance involves the department chairperson, the grievance advisor or a member of the grievance committee, these persons may not participate in the review.
   d. If not satisfied with departmental action, either party has 10 working days from the date of notification of the departmental committee action to file a written appeal to the CALS Equity and Diversity Committee. A subcommittee of this committee will make a preliminary judgement as to whether the case merits further investigation and review. If the subcommittee unanimously determines that the case does not merit further investigation and review, its decision is final. If one or more members of the subcommittee determine that the case does merit further investigation and review, the subcommittee will investigate and seek to resolve the dispute through mediation. If this mediation attempt fails, the subcommittee will bring the case to the full committee. The committee may seek additional information from the parties or hold a hearing. The committee will present a written recommendation to the dean who will provide a final decision within 20 working days of receipt of the committee recommendation.
4. If the alleged unfair treatment occurs in a CALS unit that is not an academic department, the student should, within 120 calendar days of the alleged incident, take his/her grievance directly to the Associate Dean of Academic Affairs. The dean will attempt to resolve the problem informally within 10 working days of receiving the complaint. If this mediation attempt does not succeed the student may file a written complaint with the dean who will refer it to the CALS Equity and Diversity Committee. The committee will seek a written response from the person at whom the complaint is directed, subsequently following other steps delineated in item 3d above.

Students should contact the department chair or program director with questions about grievances.

OTHER

Enrollment Requirement

The program requires all funded students to be enrolled full time. For PhD students this means at least 8 credits in the fall and spring term and at least 2 credits in the summer term. For students funded by another program should check with the payroll and benefits coordinator of that department to learn their requirements for enrollment. Unfunded students should follow the Graduate School enrollment requirements policy (https://grad.wisc.edu/documents/enrollment-requirements/).

PROFESSIONAL DEVELOPMENT

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (https://grad.wisc.edu/pd/) to build skills, thrive academically, and launch your career.

PROGRAM RESOURCES

The Animal and Dairy Sciences graduate programs encourage students to develop Individual Development Plans (https://grad.wisc.edu/pd/idp/) in collaboration with their major advisor to facilitate professional development. Besides the extensive opportunities offered across the campus at large, students in the Animal and Dairy Sciences program also benefit from activities and programs provided by the Animal Science Graduate Student Association (ASGSA), a student-led organization for graduate students at UW–Madison who are interested in animal and dairy related science.

LEARNING OUTCOMES

LEARNING OUTCOMES

1. Synthesize relevant scientific literature related to individual research in the field of animal and dairy sciences to justify and assess the purpose and impact of proposed research
2. Apply critical scientific thought to identify a research problem in the field of animal and dairy science, form a hypothesis, and deploy appropriate methods and tools to test that hypothesis
3. Implement rigorous, objective, and thorough statistical analysis methods and tools to collect, analyze, and interpret data related to an individual research topic in the field of animal and dairy sciences
4. Discuss and evaluate individual research findings in the field of animal and dairy sciences with a scientific audience in written and oral formats
5. Convey complex topics in the field of animal and dairy sciences to a non-scholarly audience