

Requirements for Advanced Degree Programs

Department of Animal Science University of Arkansas

Graduate School

Two graduate degrees are offered in the Department of Animal Science at U of A:

M.S. = Master of Science or Ph.D. = Doctor of Philosophy

[Note: Some schools offer a Master of Agriculture that requires less research, but those degrees are usually considered terminal, that is not leading to a doctorate.]

Master of Science

What is involved?

- M.S. 30 hours above BS. [24 hours course work (D grades unacceptable) plus 6 hours “research and thesis”]
- Typical course load - 6 to 10 credit hours per semester
- Many are 50% appointments as grad research assistants
Paid from state funds, teaching funds, and/or grant funds
[For assistantship, graduate students assist with undergraduate courses and/or conduct research.]
- Major professor and 2 more faculty members
- At Arkansas, \$11,000 to 11,500/year plus tuition paid. Each may apply for \$1,000 travel grant to present research papers or posters
- Typical time to finish – 2 years

“Ideal” graduate school candidate

- Good GPA (3.0 minimum for assistantship) on B.S. degree
- Course of study from a “recognized” school, with a solid science background and a background for the area of interest
- Maturity, good work ethic, and communication skills
- However, good place to discover your abilities and develop a specialization

Interest Areas and Courses

- Physiology, Nutrition, Genetics, Advanced management or production, Meat Products (or Food Safety)
- Statistics (one or two), Biochemistry, and Seminar are usually required.
- Electives in economics, plant science, food science, scientific writing etc.
(Graduate classes different from undergraduate)
Complete a thesis, expect at least one journal article

Goals

- Conduct research, usually with animals
- Read, analyze, interpret data and research results
- Communicate (speak and write) technical information
- Learn to think on your own feet

Reasons why students pursue a M.S. degree?

- Want to pursue Ph.D.
- Obtain a degree that is preferred for many positions in Industry, Extension Service, or Teaching (professional requirements needed)
- Don't know what you want to do
- Want another shot at veterinary or other professional school

Doctoral programs (Ph.D.)

This is a research degree that offers training for careers that require research, application of research, analysis of research, technology development and application, and deep understanding of underlying science. (Don't do all degrees at same place).

Most common fields of study in Animal Science

Nutrition	Ruminant Non-ruminant Nutrition-Immunology
Physiology	Endocrinology Reproduction Growth and Metabolism Lactation
Genetics	Molecular (genomics, proteomics, Population genetics Statistics and experimental design
Forages	Development and utilization Environmental studies
Meats	Food safety Product value Product development
	Courses

Admission to the Graduate School

Each person must first be admitted to the Graduate School before receiving graduate credit for courses. Information and forms are available from the web site, <http://www.uark.edu/depts/gradinfo/>. Admission will not be granted until all requirements are met. Once the requirements of the Graduate School are satisfied, a conditional acceptance is granted. It is still necessary to obtain acceptance by the Department. Admission to graduate standing does not admit the applicant into a specific degree program.

The Department's Graduate Admissions Committee asks the applicant to declare an area of interest, three letters of reference, and an assistantship application (if appropriate). The Committee reviews each application and assists in matching with a professor, if needed. The Committee also determines if appropriate background courses have been completed and may designate courses that are deficient. It is still necessary for a professor to accept the applicant into their program; thus agreeing to supervise the student's program and to direct the research required in the degree program. Prior to acceptance into the Animal Science graduate program, a professor will be assigned by the Department Head to supervise the student's program.

For admission with an assistantship, acceptance by the major professor is contingent upon financial resources and approval by the Department Head. Assistantships are competitive. Minimum requirements include 3.00 GPA on undergraduate courses, although higher grades during the final 2 years of undergraduate work may be considered. Students accepted into the program

may be considered for a state-supported assistantship after one or two semesters of satisfactory academic performance on graduate courses.

Expected Duties for Graduate Assistants

As required by the Graduate College graduate assistant grievance policy, all graduate assistants must be notified in writing of their duties.

Graduate assistants in the Department of Animal Science are required to assist with the research of their major advisor and in addition are required to assist with one undergraduate class each year they receive an assistantship. With limited exceptions outlined below, the time required to fulfill the commitments of a ½ time graduate assistantship will not exceed 20 hours per week. This limit cannot be an average for a semester or a year, but is a limit for each week.

During semesters when the graduate assistant is assisting with teaching, the total number of hours devoted to assisting with teaching should not exceed 10 hours per week. Teaching duties may include attending the assigned class, providing occasional lectures, assisting with preparation and grading of exams, and proctoring exams. You will have no more than 4 contact hours per week and no more than 6 hours dedicated to office hours and/or preparation and grading. In the event that the weekly hours for teaching should exceed the 10-hour limit, time devoted to research must be reduced so as not to exceed a total of 20 hours.

The duties required in assisting your major advisor's research include: helping design and conduct trials including but not limited to preparations,

sample collections and analysis, data entry and analysis, library searches and paper preparations. Other duties may be designated in writing.

Exceptions to the 20-hour weekly work limit include the following:

Students doing research which is also providing data for his/her thesis or dissertation may work more than the 20 hours specified in the policy. Similarly, if the student is traveling to a conference to present a paper, and this is part of the duties of the assistantship, the travel time need not be counted as part of the 20 hours per week.

A complete copy of the policy can be found in the Graduate Council minutes for September 19, 2002.

Graduate Committee

The major professor (or advisor), in consultation with the graduate student, will recommend a faculty advisory committee to the Department Head. This should be done before the end of the first semester of graduate study. The advisor and the student shall select at least three (3) faculty members, including the advisor, to represent all areas of subject matter covered by the academic courses and research to be engaged in by the student. Committees for Ph.D. candidates must have at least one member selected from outside the Department of Animal Science. The Department Head is an ex officio member of each committee and may participate fully. A copy of minutes of all committee meetings shall be maintained by the major professor.

Animal Science Admission Requirements

In addition to complying with University admission requirements, students applying for admittance into the Animal Science Department must comply with the following regulations.

1. GPA for M.S. Applicants – M. S. applicants whose undergraduate GPA is below 2.7 or below 3.0 on the last 60 hours must submit a cumulative verbal and quantitative GRE score of 1,000.
2. Assistantships and GPA – Applicants must have a 3.0 GPA minimum on all undergraduate work, in order to qualify for state supported Assistantships. Students accepted into the program without a 3.0 can be considered for a state supported assistantship after 1 or 2 semesters, if their graduate GPA is satisfactory.
3. Letters of Recommendation – Three letters of recommendation are required for all applicants.
4. International Student Admission – International applicants and resident aliens must meet Graduate School admissions requirements which may be found on their website. Resident aliens must submit a copy of their Resident Alien card with their application. International applicants must be acceptable to the Animal Science Department as a condition to being granted admission to the Graduate School and must meet the requirements for regular admission status unless holding a degree from the University of Arkansas. Admission will not be considered without a specific documentation of funds available for transfer to the

U.S., to cover each year of study at the University. *The Animal Science Department requires all international graduate school applicants to submit Graduate Record Exam (GRE) scores with a minimum verbal and quantitative cumulative score of 1,000.*

Animal Science Graduate Program Procedures

1. **Major professor** – The major professor will be assigned to the student by the department head prior to the student's acceptance into the Animal Science graduate program.
2. **Graduate Committee** – After the student has been assigned a major professor, the student and major professor, shall recommend a faculty committee to the Department Chairman. This should be done by the end of the first semester of graduate study following enrollment. The advisor and student shall select a committee totaling at least three (3) members, including advisor, to represent all subject matter areas covered by the scope of academic courses and dissertation research engaged in by the student. Committees for Ph.D. candidates must have at least one member selected from outside the department. The Department Chairman shall be an ex-officio member of each committee and may participate, as he desires. A copy of the minutes of all committee meetings shall be maintained by the major professor.
3. **Course Requirements** – The student and major professor shall select a tentative list of courses for their respective degree by the end of the first semester of enrollment by the student. During the first regular semester,

and preferably before pre-registration for the second, the list of courses should be approved by the advisory committee. Committees for Ph.D. candidates may add additional courses after the candidacy examination if they desire. In all cases, the committee shall make the final decisions regarding coursework. As a general principle, two-thirds of the courses should come from the degree program in which the student is seeking a graduate degree.

4. Selection of Research Topic – The candidate for a degree should present an outline of the objectives and procedures involved in their proposed research for committee approval.
5. Course Work Requirements – Minimum requirements for M.S. degree are 24 hours course work with 6 hours research credit. At least 14 of the 24 course work hours must consist of 5,000 level courses or above. Minimum requirements for a Ph.D. are 24 hours course work beyond a B.S. degree with 18 hours research credit.
6. Assistantships Time Limits – Graduate students on state supported assistantships will be supported a maximum of 2 years on a M.S. program and 3 years on a Ph.D. program. An extension is possible upon approval of the student's graduate committee and the department chairperson. Ph.D. students who are on their terminal year rate cannot be extended.
7. Assistantship Grade Point Minimum – If the GPA of a graduate student falls below 3.0 while on assistantship, they will be on departmental probation the following semester. If the cumulative GPA is below 3.0 for

- two consecutive semesters the student will be removed from the assistantship.
8. Assistantship Policy – A limited number of graduate assistantships are available in the Department and are awarded on a competitive basis to qualified graduate students. Financial assistance in the form of part time hourly employment is also available to selected graduate students. Students receiving financial assistance accept a responsibility to participate in the research program of the Department by carrying out supervised research on their thesis project and/or other research assigned by their advisor and/or supervisor. Assistantships and hourly employment are normally awarded on a one-half basis and require that students devote themselves to these research efforts for at least 20 hours each week. No more than 10% of the state supported assistantships can be filled by international students.
 9. Candidacy Exams – All Ph.D. students will be given Admission to Candidacy Exam which consists of a comprehensive written exam from each committee member and an optional oral exam (graduate committee will decide). A student who fails the admission candidacy exams will not be permitted to reschedule the exams for a six-month period.
 10. Time Schedule for Thesis and Dissertation Submission – M.S. students must submit a thesis to their committee at least three weeks prior to their final oral exam which is to be completed at least one week before the degree is to be confirmed. Ph.D. students must present their dissertation

to their advisory committee at least 6 weeks prior to conferring the degree and provide the Mullins Library with two approved copies of the dissertation plus two copies of an abstract at least two weeks before the degree is conferred.

11. Final Requirements – All M.S. and Ph.D. degree-seeking candidates must:

- a. present a thesis or dissertation that is acceptable to the Graduate School
- b. pass an oral defense exam
- c. present one research paper for M.S. candidates and two papers for Ph.D. candidates.

12. Residency Requirements

- a. M.S. Degree – The candidate must be a residence a minimum of 30 weeks. A total of 12 weeks of residence may be accredited from University of Arkansas off-campus graduate courses (restriction does not apply to graduate degree programs offered through the Graduate Residence Centers) or for work done in off-campus classes held in Fayetteville. Acceptance of transferred credit does not reduce the minimum residence requirements of 30 weeks. A student who completes less than 10 semester hours of course work in a semester received credit for a week of residence for each hour of course credit completed.
- b. Ph.D. Degree – After filing a Declaration of Intent to pursue the doctoral degree, a student must fulfill a residence requirement by

completing a minimum of two consecutive semesters of full-time graduate study (nine hours or more per semester), either fall-spring, spring-fall, spring and a complete 12-week summer session, or a complete 12-week summer session and a fall. This period of residence is independent of and in addition to that required for any other graduate degree. During the period of residence, the student must be continually involved on a full-time basis with the on-site academic, scholarly, and research activities of the academic department (or corresponding academic unit) in which the degree program is administered. A student who does not concurrently hold appointment as a Graduate Assistant must satisfactorily complete a minimum of nine semester hours, including dissertation credits but exclusive of courses offered through the Division of Continuing Education, during each semester or summer counted in the residence period. For students who hold appointment as Graduate Assistants this requirement is six semester hours per semester if the appointment is for 50 percent time and nine semester hours per semester if the appointments for 25 percent time. A student not on an assistantship who intends to satisfy one semester of the residence period during the summer must satisfactorily complete a minimum of nine semester hours of such work during the summer. For a student holding a concurrent assistantship of 25 percent or 50 percent time in the summer, this requirement is three semester hours per any five- or six-

week summer session. Students who also hold University appointments, other than those of Graduate Assistant, for half time or more will be considered to contribute to the residence requirements only for semester or 12 weeks in the summer during which all of the following criteria are met: (1) the appointment is in the academic department (or corresponding academic unit) in which the degree program is administered; (2) the duties of the appointment primarily involve degree-related academic or scholarly activities such as dissertation research; (3) the departmental chairperson (or corresponding administrator) and the student's Doctoral Program Advisory Committee certify that the duties of the appointment do not interfere with the appointee's regular participation as a student, on an essentially full-time daily basis, in the normal on-site academic, scholarly, and research activities of the department and degree program and the associated scholarly demands thereof; (4) the student is enrolled, for each semester or summer session counted in the residence period in at least six semester hours in each semester or three hours in each of two consecutive five- or six-week summer sessions or 6 hours in an entire ten- or twelve-week summer session; and (5) file a plan for approval by the Graduate Dean in advance of satisfying residence requirements.

Departmental Procedures

1. Key Policy – Keys to laboratories may be obtained by procuring a key authorization from the departmental chairman. Proper procedure would be to contact the major professor who will request that the Department Chairman issue the authorization.
2. Vehicle Use – The major professor should be contacted and should approve the use of a vehicle before a graduate student uses same. Certain vehicles are for local use while others are restricted to out-of-town travel. In general, pickup trucks when checked out, should be used only when it is necessary to haul material or equipment and not for local transportation of personnel.

There is a shuttle, which operates, between main campus and the University farm which is located approximately two miles north of the campus. This should be used whenever possible.
3. Office Assignments – Offices will be assigned by the departmental chairman in accordance with research needs to the extent that offices are available. In most cases, research assistants and graduate assistants will be given first priority.
4. Telephone Policy – Telephones in the Animal Science Department and those on the University farm are business phones and should only be used for business and not personal calls. Also, they should be used only for local calls.
5. Audio-Visual Equipment – Slide projectors, overhead projectors, etc., are available for departmental use. See the departmental secretary for check out

procedure and if someone has the equipment reserved for a later hour, make sure that the reservation is honored.

6. Building Hours – The outside doors to the Animal Sciences Building are locked by Physical Plant personnel at approximately 6:30 p.m. each working day. All offices and labs should be locked by their occupants upon leaving for the day. The building is usually opened on work days at approximately 7:00 a.m., however, individual offices and labs will not be opened until the person in charge of each opens them.
7. Computer Equipment and Service Available – Computer equipment located in Room A-112 is available for faculty and students. *However, before anyone attempts to use this equipment, arrangements should be made with Dr. Zelpha Johnson, for the specific piece of equipment scheduled.* The individual should also check with Dr. Johnson before initial use of the equipment to insure familiarity with it. She will attempt to answer any questions regarding the equipment and will assist with scheduling. A key is available for evening use.
8. Holidays – University Holidays are published on the University website. If one has animals on experiment or other considerations, which require care during the holidays, it is their responsibility to arrange for providing same. For research and graduate assistants who are on appointment, the major professors should be consulted relative to compensatory time.

9. Housing – The University housing office offers a locator service for apartments and houses available off campus. The service is free to faculty, staff, and students. Call 575-3951 for more information.
10. Seminars – Graduate seminars are held weekly in the fall and spring semesters. All graduate students are expected to attend seminar whether enrolled for credit or not. Graduate students must enroll in seminar as required by their graduate advisory committee.