

# Animal and Dairy Sciences

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The Animal and Dairy Sciences program offers graduate study toward the Master of Science (thesis and non-thesis options) in Agriculture with a concentration in Animal Science; the Master of Agriculture with a concentration in Animal and Dairy Sciences (non-thesis); and Doctor of Philosophy in Agricultural Sciences with a concentration in Animal and Dairy Science. Master of Science and Doctor of Philosophy programs in Animal Nutrition; Food Science; Animal Physiology; and Genetics are also available through the interdepartmental programs (refer to the specific interdepartmental programs elsewhere in the Graduate Catalog for program-specific guidelines in addition to those listed here).

## Admission Criteria

A minimum of 3.00 GPA and the GRE is required for all programs (Master of Science thesis and non-thesis options; Master of Agriculture; and Doctor of Philosophy). Individual faculty serving as major professors may have additional requirements for students they advise. Therefore, it is advisable that a prospective student contact faculty with whom he/she is interested in working to determine if they have additional admission requirements (i.e., GRE score, etc.). An international applicant is required to have a TOEFL (Test of English as a Foreign Language) score of 575 PBT (84 iBT) or an IELTS (International English Language Testing Systems) score of 7.0 or higher to be considered for admission.

## Provisional Admission

An applicant who has not fully met the GPA requirement stipulated by the University may be admitted on a provisional basis. See Provisional Admission Requirements (<http://catalog.msstate.edu/archives/2019-20/graduate/academic-policies/academic-requirements/#provisionaladmissiontext>) in this *Catalog*.

## Academic Performance

The Department of Animal and Dairy Sciences adheres to the academic performance standards of the Graduate School and CALS. Students are referred to these criteria for provisional admission, contingent admission, academic performance, and dismissal policies.

To graduate, the student must complete all University and degree program requirements listed in the *Graduate Catalog* under which he/she began the program. A graduate student cannot graduate under any of the following circumstances.

1. A GPA lower than 3.00 for all courses attempted for graduate credit after admission to the degree program or
2. A grade of D or lower on the program of study or
3. More than two courses (not exceeding 9 credit hours) with a grade of C or lower earned for all courses since admission into the program, including those outside the program of study\* or
4. A U grade in thesis or dissertation research credit in the final semester or
5. A grade of I (Incomplete) on his/her transcript.

\*NOTE: The original grade for a course that is retaken will not be included in the 8 hours. However the original grade is included as part of the calculation of the GPA. See the Course Course Retake Policy (<http://catalog.msstate.edu/archives/2019-20/graduate/academic-policies/program-of-study/#courseretakepolicytext>) section for additional details.

No graduate courses with pass/fail credit are accepted as part of a graduate program. Grades of pass/fail are not awarded at MSU and cannot be transferred to MSU.

A GPA of 3.00 on the minor coursework is required for students completing a minor.

## Stipends

Students who have not met the requirements for full admission to their degree program are not eligible to receive an assistantship. Students with a GPA less than 3.00 or who have been admitted on a provisional/probationary status are not eligible to receive an assistantship. Graduate assistantships provide students a salary for 20 hours of work per week which is NOT part of their own research. These 20 hours per week may be spent on research, teaching, and/or service. The student is also expected to complete work toward their his or her own research IN ADDITION TO their assistantship duties.

## Master of Science in Agriculture with Animal Sciences Concentration - Thesis

The program of study is developed by the student and his/her major professor with approval by the student's graduate committee in accordance with Graduate School policy and must include core courses as specified below. In addition to the Graduate School requirements for a master's graduate committee, the department requires that at least two committee members must be from the Department of Animal and Dairy Sciences.

For the master's degree in Agriculture with a concentration in Animal Science or the PhD degree in Agriculture with a concentration in Animal and Dairy Sciences, the student must have completed or will be required to complete in addition to the graduate coursework, 9 credit hours (4000 level or above) of animal/dairy sciences courses. These 9 credit hours must include at least one course in breeding, nutrition, or reproduction and at least one course in a species-specific production system. All students are expected to demonstrate a working knowledge of the Animal and Dairy Sciences field. Opportunities to meet this expectation include: audit additional animal sciences courses (below 4000 level), serve as a teaching assistant for Introduction to Animal Science, or attend departmental journal clubs. Students not holding a degree in Animal or Dairy Sciences (or related field) will be required to do at least one of the above, as directed by the major advisor.

Graduate Seminar	2
(ADS 8111, ADS 8121, or ADS 8131 are suggested courses.)	
Statistics	8
(ST 8114 and ST 8214 are suggested courses.)	
Biochemistry	3
(ADS 8333, BCH 6013, BCH 6603, or BCH 6613 are suggested courses.)	
ADS 8000	6
Thesis Research/ Thesis in Animal and Dairy Sciences	
Graduate level coursework <sup>1</sup>	11
Total Hours	30

<sup>1</sup> At least 12 hours of coursework must be taken at the 8000 level.

M.S. thesis candidates are required by the Department of Animal and Dairy Sciences to submit a written proposal of the intended research area during the first year of the graduate program, in addition to the submission of an annual progress report of research, teaching, extension and service activities, and a final written and oral presentation of the thesis work.

## Master of Science in Agriculture with Animal Sciences Concentration - Non-Thesis

The program of study is developed by the student and his/her major professor with approval by the student's graduate committee in accordance with Graduate School policy and must include core courses as specified below. In addition to the Graduate School requirements for a master's graduate committee, the department requires that at least two committee members must be from the Department of Animal and Dairy Sciences.

For the master's degree in Agriculture with a concentration Animal Science, the student must have completed or will be required to complete in addition to the graduate coursework, 9 credit hours (4000 or above) of animal/dairy sciences courses. These 9 credit hours must include at least one course in breeding, nutrition, or reproduction and at least one course in a species-specific production system. All students are expected to demonstrate a working knowledge of the Animal and Dairy Sciences field. Opportunities to meet this expectation include: audit additional animal sciences courses (below 4000 level), serve as a teaching assistant for Introduction to Animal Science, or attend departmental journal clubs. Students not holding a degree in animal or dairy sciences (or related field) will be required to do at least one of the above, as directed by the major advisor. Any undergraduate courses would not be included in the program of study.

The non-thesis student is required to complete 30 hours of coursework as approved by his/her graduate committee. Some Directed Individual Study courses, numbered at the 7000-level, may be approved to meet the 8000-level course requirement. Not more than 6 hours of graduate credit may be earned in Directed Individual Study courses. Students will also have to complete a scholarly activity, participate in research projects, and develop a scholarly document focused on the subject area.

Graduate Seminar	2
(ADS 8111, ADS 8121, or ADS 8131 are suggested courses.)	
Statistics	8
ST 8114 and ST 8214 are suggested courses.)	
Biochemistry	3
(ADS 8333, BCH 6013, BCH 6603, or BCH 6613 are suggested courses)	
Directed Individual Study	3
Graduate-level coursework <sup>1</sup>	14
Total Hours	30

<sup>1</sup> At least 15 hours of coursework must be taken at the 8000 level.

## Master of Agriculture with Animal and Dairy Sciences Concentration - Non-Thesis

The Master of Agriculture degree is a non-thesis advanced degree designed to prepare graduates for careers or professional schools. A concentration is selected and students develop a program of study with approval by the student's graduate committee in accordance with Graduate School policy and course requirements for the concentration. Students are required to complete 30 hours of coursework as approved by the graduate committee. Some Directed Individual Study courses, numbered at the 7000 level, may be approved to meet the 8000-level requirement. Not more than 6 hours of graduate credit may be earned in Direct Individual Study courses. Students will also have to complete a scholarly activity, participate in research projects, and develop a scholarly document focused on subject area. The program is offered on the Starkville Campus and through the Center for Distance Education.

Graduate Seminar	2
(ADS 8111 [repeatable] is suggested course.)	
Statistics	8
(ST 8114, ADS 8004, or ST 8124 are suggested courses.)	
Biochemistry	3
(ADS 8333, BCH 6013, BCH 6603, or BCH 6613 are suggested courses.)	
Directed Individual Study	3
Graduate-level coursework <sup>1</sup>	14
<b>Total Hours</b>	<b>30</b>

<sup>1</sup> At least 15 hours of coursework must be taken at the 8000 level.

## Doctor of Philosophy in Agricultural Sciences with Animal and Dairy Science Concentration

The program of study is developed by the student and his/her major professor with approval by the student's graduate committee in accordance with Graduate School policy and must include core courses as specified below. In addition to the Graduate School requirements for a Ph.D.'s graduate committee, the department requires that at least two committee members be from the Department of Animal and Dairy Sciences.

Completion of a Ph.D. requires substantial academic work in the field or program of interest beyond the bachelor's level and includes both formal coursework and research (dissertation credit hours). Mississippi State University requires doctoral students earn at least 54 hours of graduate credit beyond the bachelor's level, which includes a required 20 hours of dissertation credits. Of the 54 hours, at least 24 must be from GPA-graded graduate coursework with a minimum of 12 credit hours at the 8000 level or higher (excluding dissertation research credits), and at least 20 dissertation research credits. The remaining 10 hours can be earned with coursework credits, dissertation/research credits, or a combination of both. A student could be required to take additional hours, including dissertation credit hours, as well as permit previous graduate degree coursework in the field to contribute to that total. Program of study courses must be approved by the student's committee. A student may be required to take an ESL, LSK, or undergraduate course, but these courses or audited courses cannot be included on a program.

For the Ph.D. degree in Agriculture with a concentration Animal and Dairy Sciences, the student must have completed or will be required to complete in addition to the graduate coursework, 9 credit hours (4000 level or above) of animal/dairy sciences courses. These 9 credit hours must include at least one course in breeding, nutrition, or reproduction and at least one course in a species-specific production system. All students are expected to demonstrate a working knowledge of the Animal and Dairy Sciences field. Opportunities to meet this expectation include: audit additional animal sciences courses (below 4000 level), serve as a teaching assistant for Introduction to Animal Science, or attend departmental journal clubs. Students not holding a degree in Animal or Dairy Sciences (or related field) will be required to do at least one of the above, as directed by the major advisor.

Ph.D. candidates are required by the Department of Animal and Dairy Sciences to submit a written proposal of the intended research area during the first year of the graduate program, in addition to the submission of an annual progress report of research, teaching, extension and service activities, and a final written and oral presentation of the dissertation work.

For a Ph.D. candidate, an oral and written preliminary/comprehensive examination will be administered by the student's graduate committee in accordance with Graduate School policy prior to the submission or defense of dissertation research.

Graduate Seminar	3	
(ADS 8111, ADS 8121, or ADS 8131 are suggested courses.)		
ADS 9000	Dissertation Research/ Dissertation in Animal and Dairy Sciences	20
GPA-graded graduate coursework at at least 12 hours at the 8000 level or higher <sup>1</sup>		21
Electives <sup>1</sup>		10
(Can be graded coursework and/or dissertation credits)		
<b>Total Hours</b>		<b>54</b>

<sup>1</sup> Beyond the B.S. degree