

Animal and Veterinary Sciences (MS, Ph.D.)

Graduate Student Handbook
2021-2022

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Clemson® University

DEPARTMENT OF ANIMAL AND VETERINARY SCIENCES

129 Poole Agricultural Center, Clemson, SC 29634-0311

864-656-3428

clemson.edu/avs



College of
**AGRICULTURE, FORESTRY
AND LIFE SCIENCES**

Clemson Graduate School Information

These guidelines supplement the current version of the [Clemson University Graduate School Policy Handbook](https://www.clemson.edu/graduate/files/pdfs/gc_policy_handbook.pdf) (https://www.clemson.edu/graduate/files/pdfs/gc_policy_handbook.pdf)

The policies and procedures of the Graduate School have been established to ensure that a consistent set of standards are followed from the admissions process all the way through to the awarding of degrees for every Graduate School program.

[Graduate School Forms](https://www.clemson.edu/graduate/students/forms.html)

(<https://www.clemson.edu/graduate/students/forms.html>)

[Graduate School Deadlines](https://www.clemson.edu/graduate/students/deadlines.html)

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Overview of Program

Students interested in a professional career in the animal sciences will be exposed to educational and research experiences involving the many facets of animal nutrition, physiology, microbiology, genetics, and meat science through a rigorous curriculum of graduate-level courses and challenging experimentation approaches.

The most current ideas and concepts in animal sciences will be provided to the students through their daily interactions with the faculty in both the classroom and laboratory environments

Goal

The purpose of the Animal and Veterinary Sciences (AVS) graduate program is to provide a high-quality education for graduate students with diverse goals, and to develop, through research, the knowledge and technology necessary to continually improve productivity, efficiency, and sustainability of animal agriculture.

What AVS Graduates do

Graduate School is not a race, is a marathon. We get it. Your graduate degree will provide you with options to immerse yourself in several different areas that throughout this experience you have learned you are passionate about. Here's a snapshot of what life after graduation looks like for some of our most recent students:

- Education
- Research/Teaching
- Technical Services
- Extension
- Veterinary Medicine
- Small and Large Animal Practices
- Food Safety and Inspection
- Government Agencies
- Non-Governmental agencies
- Research and Development
- Science and Technology
- Farm Production and Management
- Livestock Production
- Livestock Feed
- Meat and Dairy Foods
- Agribusiness
- Sales (Livestock, Nutrition, Pharmaceuticals, Ag Chemical, Supplies and Equipment)
- International Development
- Marketing
- Public Relations
- Customer Service
- Product and Process Development
- Genetics and Animal Breeding
- Animal Nutrition, Health and Disease Control
- Animal Behavior, Training, Caretaking
- Quality Control
- Livestock Regulatory Inspection
- Harvest Operation Inspection
- Meat and Dairy Inspection

Professional Licensure

No professional licensure applies to the AVS Graduate Program

Approved Locations and Modalities of Delivery

The only approved modality of delivery is traditional (face-to-face). Students will be required to complete their coursework on the main campus.

In some cases, select courses may be offered online or off-campus, but these are not typically offered on a regular basis.

Research credits can be completed on the main campus, at Research and Education Centers, or at other locations approved by the advisory committee.

Cohort information

No cohort information applies to the AVS Graduate Program.

Basic Program Metrics

Typical time to degree:

Typical time to degree:

MS (thesis) 1.5 - 2.5 years

MS (non-thesis) 1.0 - 2.0 years

PhD 3.0 - 4.5 years

PhD (MS en route) 5.0 – 6 years

Contact Information

Dr. Gustavo Lascano
Graduate Program Coordinator Program
122 Poole Agricultural Center
Phone: 864-656-1745
glascan@clemson.edu

Ms. Stacey Miller
Administrative Assistant
129 Poole Agricultural Center
Phone: 864-656-3428
smille3@clemson.edu

Advisory Board

There is no Advisory Board for the AVS Graduate Program.

Admission Requirements

Requirements (in addition to Graduate School requirements)

The AVS Department requires GRE scores, resume, personal statement and three letters of reference for application to our graduate program.

For M.Sc. thesis, MS nonthesis, and Ph.D. degree programs, the AVS Department also requires that you identify a faculty member who is willing to serve as your major advisor prior to admission.

For assistance choosing a major advisor, please contact the AVS Graduate Program Coordinator, Dr. Gustavo Lascano (glascan@clemson.edu).

Dates and deadlines

The AVS Program has rolling admissions, and accepts students for the Spring, Summer and Fall semesters. Applications are considered year-round for all semesters. However, most of our students enroll during the Fall Semester.

Support Mechanisms

The most common mechanism of support is a thorough Graduate Research (GRA) and Teaching (GTA) Assistantships. Interested students are encouraged to contact prospective advisors regarding these assistantships' availability and eligibility. These assistantships are awarded on a competitive basis directly by the Principal Investigator of each research project. Applications from students who have not been in communication with their prospective advisor before applying to the AVS Graduate Program are rarely admitted.

Types of assistantships:

Graduate Research Assistants (GRA) conduct supervised research or assist with research funded from any source administered by the University.

Graduate Teaching Assistants (GTA) teach undergraduate classes or laboratories under the supervision of a faculty member. GTAs are not responsible for assigning grades.

Graduate Teachers of Record (GTR) assume primary responsibility for teaching undergraduate classes or laboratories and are responsible for assigning grades. The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) requires that all Graduate Teachers of Record (GTR) have “earned at least 18 graduate semester hours in their teaching discipline, be under the direct supervision of a faculty member experienced in the teaching discipline, receive regular in-service training and be evaluated regularly. The department chair has the responsibility for determining that the 18-hr requirement is met either through coursework or with a memo containing documentation that the graduate assistant meets the requirement as an exception. The Enrolled Student Serves Office will certify that the 18-hour requirement has been met.

A few recruitment fellowships and other merit-based scholarships are also available to be awarded on a competitive basis.

Fees

No Program-specific Fees apply to the AVS Graduate Program.

Transfer Credits

The AVS Program follows Graduate School guidelines for transfer credits

Requirements for Degree

Minimum Degree Requirements

Animal and Veterinary Sciences, MS

Applicants to the Animal and Veterinary Sciences programs should have a strong background in the animal, biological and physical sciences. Students with deficiencies in these sciences may be admitted provided they correct these deficiencies during the first year of the program of study. MS students are required to complete coursework in an area of interest approved by their graduate advisor or advisory committee. MS students may select a thesis or non-thesis option.

Master of Science, Non-Thesis Option:

Students in the M.S. non-thesis option must complete a minimum of 30 hours of coursework, excluding thesis research. Course requirements are:

- AVS 8200, Animal and Veterinary Sciences
- Graduate Seminar **1 credit**
- Statistics, graduate level **3 credits**
- AVS graduate courses* **14 credits**
 - *at least one course from One Health, Nutrition, and Physiology/Genetics
- General Graduate Course Electives **12 credits**
-

All students will have a graduate advisory committee consisting of at least three graduate faculty including their major advisor who must be a current member of the AVS graduate faculty

Additional requirements: at least six of the 30 credits must be 8000 level AVS courses; no more than three credits of AVS 8010 Selected Topics; and no more than three credits of AVS 8220 Special Problems. At the conclusion of the student's program, an exit graduate committee meeting with an oral examination is required.

Master of Science, Thesis Option:

Students in the M.S. thesis option must complete a minimum of 30 hours of graduate coursework, including six credits of thesis research. At least one-half of the total graduate credit hours required by the advisory committee, exclusive of thesis research, must be selected from courses numbered 8000 or above. The following course areas and credit hours are required:

Statistics:	6 credits¹
Communication:	3 credits²
Advanced Knowledge of Discipline:	15 credits³
Research Proficiency, AVS 8910	6 credits

The advisory committee will consist of a major advisor and a minimum of two committee members. All members of the advisory committee must be currently approved members of the AVS Graduate Faculty.

¹ Any 8000-level statistics course that is not fulfilling another requirement as approved by student's advisory committee.

² AVS 8200, Animal and Veterinary Sciences Graduate Seminar (1 credit) and at least two additional credits in courses with structured content focused on helping graduate students strengthen their written and oral communication skills, if not fulfilling another requirement and as approved by the student's graduate advisory committee.

³ Any 6000 or higher level AVS course (excluding 8910, 9910) or other courses in related scientific fields that are not already fulfilling another requirement, as approved by the student's graduate advisory committee.

Animal and Veterinary Sciences, PhD

Each student's program will include at least 30 credit hours beyond the master's degree or 60 hours beyond the bachelor's degree, including a minimum of 18 hours of dissertation research. At least one-half of the total graduate credit hours required by the advisory committee, exclusive of thesis research, must be selected from courses numbered 8000 or above. A dissertation is required. In addition to the requirements listed above for the M.S. thesis degree, the following course areas and credit hours are required:

Statistics:	3 credits¹
Research Proficiency, AVS 9910	18 credits
Advanced Knowledge of Discipline	9 credits³

The advisory committee will consist of a major advisor and a minimum of three committee members. All members of the advisory committee must be currently approved members of the AVS graduate faculty.

Students should also complete at least one Professional Development experience per year focusing on helping the graduate student strengthen their competitiveness for future career opportunities, if not used to complete another requirement and as approved by the student's advisory committee. Examples might include the following: directed reading discussions (journal club); training in grant-writing; attending professional speaking engagements; Grad 360 courses; or presenting at regional, national or international conference during their graduate program.

¹Any 8000-level statistics course that is not fulfilling another requirement as approved by student's advisory committee.

³Any 6000 or higher level AVS course (excluding 9910) or other courses in related scientific fields that are not already fulfilling another requirement, as approved by the student's graduate advisory committee.

Plan of Study (form GS2; Ref: CU Graduate School Policies and Procedures):

If you are a degree-seeking student, you must file a GS2 Plan of Study or graduate degree curriculum (accessed via iROAR) near the beginning of your program of study. This planned program represents your individual curriculum as recommended by your advisory committee. It must adhere to departmental as well as University policies. The total number of graduate credits required for the degree is determined by your advisory committee, consistent with the specific program guidelines and Graduate School policy. These credits constitute the core of your graduate degree curriculum. All transfer courses listed on the GS2 must conform to the policies on transfer courses (see Transfer credit). These documents may evolve, with advisory committee approval, throughout the course of your degree program, and changes should be reviewed and approved by your committee, and a new GS2 form submitted whenever a change occurs.

Proposal Requirement for M.S.-Thesis and Ph.D. degrees:

Graduate students in the M.S.-Thesis and Ph.D. degrees will submit a written proposal and oral research proposal to their advisory committee. If approved, the GS-Approval of Thesis/Dissertation Research Proposal form, located at: <https://www.clemson.edu/graduate/files/pdfs/GS-ResearchApproval.pdf>, will be completed and submitted to the graduate school prior to graduation.

Deadlines:

Students pursuing a master's degree must submit the **Plan of Study** and present their **Research Proposal** by the **middle of their second semester** following matriculation, and doctoral students must submit the curriculum no later than the **beginning of their fourth semester** of study following matriculation. If you don't meet these deadlines, you may be blocked from registering for courses until you submit a plan of study.

Final GS2 and graduation:

In order to be approved for graduation, your final GS2 must be filed by the deadline listed on the graduation deadlines web page. Failure to meet these deadlines may result in late fees and/or inability to graduate when desired.

Continuous enrollment (Ref: CU Graduate School Policies and Procedures):

As a graduate student enrolled in a degree program, you are required to maintain continuous enrollment after initial matriculation (i.e., you must register each fall and spring semester until you either have graduated, have permanently withdrawn, or have been dismissed). If you are enrolled in the spring and fall semesters, you are not required to register during the summer unless you meet the exceptions. Registration in a zero-credit internship or similar course satisfies this requirement. Registering to audit a course does not meet this requirement. Note that a student on a 12-month graduate assistantship must maintain continuous enrollment during the summer in addition to fall and spring semesters.

Advisory Committees

Guidelines (Ref: Clemson Graduate School Policies and Procedures):

Advisor (major advisor, committee chair):

Every student enrolled in a graduate program must have a major advisor. The major advisor is the faculty member who provides general guidance throughout your program of study. The major advisor will recommend initial courses to be taken until the advisory committee is selected. Initial coursework (See deadlines for **Plan of Study above**) should be of a fundamental or core nature so that the full advisory committee, once constituted, will have maximum flexibility to formulate the remainder of your program of study. Your major advisor, in consultation with the graduate program coordinator or department chair, will assist you in selecting the members of your advisory committee. The major advisor is responsible for chairing the advisory committee meetings and for providing realistic expectations for completing the requirements of the degree. An advisory committee may be co-chaired by more than one faculty member.

Graduate Advisory Committee:

A student's advisory committee approves your degree curriculum, supervises your graduate program, administers the final oral examination, and initiates the recommendation for the awarding of the degree. In addition, the advisory committee may administer qualifying (or preliminary) or final comprehensive examinations. One member of the committee is designated as chair (or major advisor) and normally directs your dissertation or thesis.

Every student enrolled in the Graduate School must form an advisory committee not later than the middle of their second semester after matriculation into a master's or specialist's degree program, or not later than the beginning of the fourth semester of their doctoral program. Individual programs that require a standing exception to the timeline for curricular reasons may appeal for an alternative timeline to be approved by the Dean of the Graduate School.

Committee composition: A minimum of three faculty members must be selected by a student seeking a MS degree, and a minimum of four faculty members must be selected by a student seeking a doctoral degree. All members of an advisory committee must be current members of the graduate faculty. The majority of the advisory faculty

may serve as co-chairs or committee members as long as the chair is a permanent faculty member appointed to the graduate faculty and the Special faculty member(s) are members of the graduate faculty. The chair, co-chair, or at least half of the committee must have a primary appointment in the program offering the degree. If the student declares a minor, this area must be represented on the committee. Committee members of interdepartmental programs are to be appointed according to bylaws (formulated by the program faculty and endorsed by the academic unit housing the program).

Major advisor or committee chair: Regular or Administrative faculty holding graduate faculty status are eligible to serve as the major advisor or chair of the committee.

Preliminary Exams

Preliminary Exams are not typically conducted in the AVS Graduate Program unless required by the student's committee.

Comprehensive Exam

To be accepted into candidacy for the Doctor of Philosophy degree in AVS, each student must complete the requirement of a comprehensive examination. The comprehensive exam is taken in two parts: written examinations and oral examinations. Examinations are scheduled with the major advisor and advisory committee. After completion of the preliminary exams, graduate student will file the GS5D form. The time span from the beginning to the end of the examination must not exceed 12 months. If a student fails to pass the comprehensive examination, he/she may be given a second opportunity depending on the recommendation of the committee. A second failure will result in the student being declared ineligible to receive the PhD or EdD degree at Clemson University in any program; that is, the student will not be eligible to transfer nor apply to a different doctoral program at Clemson University.

Expectations for Thesis/Dissertation

The preferred format is that of individual chapters presented as independent publishable units, but there is flexibility to allow for other formats as suggested by the advisory committee.

Additional Requirements

No additional Requirements apply

Suggested Timetable of Student Progress

Time	Action
Pre-Registration	Obtain information about program requirements and guidelines. Meet with your major advisor and the Graduate Program Coordinator
Semester 1	Meet with Advisor to determine Committee Members Committee Meeting to Approve Plan of Study (GS2 Form) (Provide Transcript to each Member) Submit Form GS2 to Graduate Coordinator
Semester 2	Committee Meeting to Approve Research Literature review First Draft Due
Semester 3	Departmental/Committee Seminar Presenting Research Proposal Annual Committee Meeting (progress report)
Following Semesters	Meet with Advisor and Committee members for progress and troubleshooting Annual Committee Meeting (at least once per year) Provide Assessment Coordinator with Citations, Presentations, awards
Comprehensive Exam (Ph.D. only)	Comprehensive Exams (Form GS5) are typically completed 12-18 months before graduation, but no later than 6 months before graduation.
Final Semester	Set Defense date at least 4 weeks prior graduation Thesis/Dissertation Draft due to Committee (Draft due to committee minimum two weeks before meeting and pre-approved by major advisor) Thesis/Dissertation defense, fill GS7M (MSc) and GS7D (PhD) Submit Thesis/ Defense to Graduate School

Standards of Performance

Annual Review of Progress

As per Graduate School policy, all graduate assistants must be evaluated regarding their teaching and research performance prior to the end of the term that will complete their annual assignment. Beginning with the Fall 2018 semester, the Graduate School will approve returning assistantship assignments only if an up-to-date evaluation is on file.

Evaluation template forms are at <https://www.clemson.edu/graduate/faculty-staff/forms.html> There are two options available, or programs can use their own evaluation form if they already have a template in use.

Academic Performance

The AVS Graduate Program follows Graduate School policy and expectations for academic performance.

Professional Requirements and Expectations

Students should also complete at least one Professional Development experience per year focusing on helping the graduate student strengthen their competitiveness for future career opportunities, if not used to complete another requirement and as approved by the student's advisory committee. Examples might include the following: directed reading discussions (journal club); training in grant-writing; attending professional speaking engagements; Grad 360 courses; or presenting at regional, national, or international conference during their graduate program.

Performance Expectations for Graduate Assistants

The AVS Program follows Graduate School guidelines on performance expectations for Graduate Assistants.

Attendance Policies

The AVS Program follows Graduate School guidelines on performance expectations on attendance.