AUGUST 2026

UNIVERSITY OF TENNESSEE

GRADUATE STUDENT HANDBOOK

DEPARTMENT OF ANIMAL SCIENCE

Policies described herein were approved by the faculty and are effective immediately.

Table of Contents

Welcome! **4**

Introduction **5**

Animal Science Graduate Program History **6**

Graduate Program Contacts **8**

Graduate Research Faculty **9**

Administrative Organization **13**

Responsibilities of Faculty and Graduate Students **14**

Academic Standards of Conduct 15
Expectations of Animal Science Graduate Students 16

Admission Requirements for MS and PhD Programs **21**

Application Procedures for MS and PhD Programs **26**

Part-time Employment Opportunities **27**

Graduate Research or Teaching Assistantships 27
Bi-weekly Payroll Assignments 28
Fellowships 28

Registration Procedures and Requirements **29**

Degree Requirements: Master of Science **31**

Degree Requirements: Doctor of Philosophy **36**

Graduate Student Evaluation **42**

Academic Review 42
Degree Program Progress 42
Assistantship Performance 43
Termination and Dismissal Procedures 43

Department Facilities & Resources **45**

Animal Science Graduate Student Association 45
Office, Desks and Keys 45
Routine Office Supplies 45
Professionalism & Wearing Apparel 45
Thesis/Dissertation Materials 46
Materials for Presentation of Research at Professional Meetings 46
Travel Funding 46
Departmental Vehicles 47
Computers 48
Leaving the University 49

Appendix I: Academic Courses 50

Appendix II: Monitoring and Planning Academic Progress 55

Suggested Milestones for MS Program 55
Suggested Milestones for PhD Program 57

Appendix III: Student Evaluation Forms 61

Appendix IV: Definitions, Contacts and Links 65

Pertinent Graduate Student Web Pages 66

Welcome!

Congratulations on taking an important step towards achieving your career goals through the pursuit of graduate studies at The University of Tennessee in the Department of Animal Science! Because Animal Science is a diverse and fascinating blend of applied and basic life sciences, a strength of our program is the ability to tailor graduate degree programs to achieve your career goals. As proof, our MS and PhD programs have alumni located all over the world, enjoying careers as leaders in government, academia, and in animal and biomedical industries.

As a graduate student enrolled in our program, you will have the opportunity to engage in research related to animal physiology (e.g., ruminant and monogastric nutrition, reproduction or stress), health and welfare (immunology, microbiology, pre-harvest food safety, or behavior), precision ag, or genomics. Our programs emphasize the importance of experiential "hands on" learning with different animal species, including beef and dairy cattle, poultry, swine, sheep, and to a lesser degree, companion animals or rodent models. Also, depending on your interests, a number of opportunities may be available to travel/study abroad.

Be assured that our graduate research faculty will challenge you to be the very best by providing an environment and opportunities to expand your knowledge and creative and scholastic abilities. This, along with personalized efforts to enhance your communication and presentation skills, will ensure your competitiveness for top-ranked positions after completion of your graduate program. A list of our graduate faculty is provided later in this handbook. See the departmental graduate website to get better informed of faculty specific research focus areas (https://animalscience.tennessee.edu/graduate/).

Because graduate students are the *"lifeblood"* of our research and teaching programs, your contributions to the department and your mentor's program are not only appreciated but greatly valued.

The department gratefully acknowledges Dr. Lannett Edwards, whose work in developing the Animal Science Graduate Student Handbook established the foundation for this document and strengthened the organization and consistency of the graduate program.

Sincerely,

Dr. Phillip Myer
Graduate Program Director
pmyer@utk.edu

Introduction

To serve the mission and vision of the Graduate School and preserve the integrity of Graduate Programs at the University of Tennessee, Knoxville, information related to the process of graduate education in each department is to be provided as a handbook. The purpose of this handbook is to clearly describe policies where departmental requirements exceed those of the Graduate School, and how policies will be implemented. It is written for YOU, the graduate student, but also serves as a record to the faculty of approved procedures and policies. You are required to read this handbook and follow stated requirements. Additionally, Graduate School policies that are of particular importance are copied here. You also have full responsibility for knowing/following the rules and regulations of the Graduate Council listed in the current online graduate catalog, https://catalog.utk.edu/index.php

In short, graduate students are bound by policies and requirements in this handbook and the Graduate Catalog. It is important to note that course offerings and requirements of the institution and department are continually under examination and revision. Note that unlike undergraduate students, who follow the requirements in the catalog they entered under, *graduate students must follow current requirements in the Graduate Catalog and this handbook.* Adequate and reasonable notice will be given to students affected by any changes, and changes only become effective in the Fall semester of each year - your program requirements are not affected by mid-year changes.

The Animal Science Graduate Program is dedicated to training graduate students in the multiple disciplines associated with the animal sciences. Fundamental to your program will be 1) development of specific and comprehensive knowledge of animal physiology (e.g., ruminant and monogastric nutrition, reproduction or stress), health and welfare (immunology, microbiology, pre-harvest food safety, or behavior), precision ag, or genomics, 2) use of the scientific method to investigate critical issues, and 3) enhancement of verbal and written communication skills.

The *goal* of our program is to enable you to successfully compete for the diverse job opportunities available within your primary interest area. This often requires a mixture of general and specific training adapted to your needs and desires. Because animal science involves a combination of many allied disciplines, including chemistry, biochemistry, biology, microbiology, genomics, and statistics, MS and PhD programs are flexible and of equally high quality regardless of your interest. Coursework in these subjects, together with the planning, conduct, interpretation and reporting of an original research project, constitutes the general design of your graduate program.

Understand that a high-quality graduate education is very much dependent upon YOUR strong commitment, resourcefulness and high standards of achievement. In a sense, your major professor, graduate advisory committee, coursework and research problem serve simply to facilitate graduate education. As such, you should set your own high standard of excellence, make as much use of the aforementioned available "facilitators" as is possible and, in so doing, make the most of your graduate education. To this end, you must be fully committed to your graduate program, and participate in departmental and professional activities.

Animal Science Graduate Program History

(Thanks to Dr. Frank Masincupp for maintaining this history)

The Department of Animal Science traces its beginning to 1920 with the formation of the Animal Husbandry "group" within the College of Agriculture. In 1949, the Animal Husbandry group changed to the Animal Husbandry-Veterinary Science group and in 1950, according to the UT Record of that year, became known as a department rather than a group. It remained Animal Husbandry-Veterinary Science until 1972 when the Dairy and Poultry departments merged with it to form the Animal Science Department. The Dairy group had similar history as the Animal Husbandry group, originating in 1920; whereas the Department of Poultry Husbandry was not formed until ~1948.

Although departmental origins trace back to 1920, a Masters program was approved in 1907. Animal science thesis-based graduate degrees were initially awarded as an MS majoring in Agriculture. The first on departmental record was awarded to Ben Prim Hazelwood in 1926 for the "Survey of the Knoxville Milk Supply". Dr. C.E. Wylie, first of only two department heads of what was to become the Dairy Department, served as his major professor. The first thesis-based MS degree majoring in Animal Husbandry was awarded in 1933 to Thomas Luther Mayes for "A comparison between the income from flocks of barred Plymouth Rocks and single comb White Leghorn hens". While the first thesis-based MS degree in Animal Science was awarded in 1971, MS degrees in Animal Husbandry were not granted until 1974. As of May 2013, a "collective" total of 650 MS degrees have been conferred. A PhD program in Animal Husbandry was approved in 1960 and was the first in the College of Agriculture. In 1965, three graduates received PhD's (Robert Donald Waddell majored in Animal Husbandry under the tutelage of Dr. H.J. Smith; Ted Painter McDonald and John Newton Williams, II majored in Animal Science under the tutelage of Dr. C.S. Hobbs). As of August 2016, a "collective" total of 178 PhD degrees have been awarded.

The University of Tennessee is noted as the first coed institution of higher learning and the College of Agriculture had a special program for women before 1920. Even so, it was not until 1965 that a woman received a graduate degree in animal-science based disciplines. Emily Ann Davis majored in Poultry under the tutelage of Dr. J.K. Bletner; her MS thesis was titled "Supplementation of chick diets containing high levels of hydrolyzed feather mill". In 1974, Carol Ann Clark of Lenoir City, Tennessee, was the first woman to receive the MS degree majoring in Animal Science under the tutelage of Dr. C.C. Chamberlain for "Observations on metabolism of selected minerals in the developing horse". The first woman to receive a PhD majoring in Animal Science was Mrs. Harriet Corrick, PhD in 1973. She was the wife of Dr. Jim Corrick, who was a faculty member in the department.

There were several times during the history of this department that growth occurred in both the research program and student numbers. The first of these occurred in the late 1940's, when, actually, two things happened. First, World War II ended which led to larger enrollments of students who had their college studies interrupted by the War and other students entering for the first time. Second, two research projects were established, one of which would eventually lead to a long and fruitful joint effort between the University of Tennessee and the Atomic Energy Commission at Oak Ridge. Dr. C.S. Hobbs, who

assumed the department head role in 1947, had learned of some cattle which had accidentally been exposed to atomic bomb tests in New Mexico. Supposedly, on the spur of the moment, he went to New Mexico and purchased these cattle along with an unexposed herd and had them sent back to Tennessee. Through his efforts, these cattle became the building block for the formation of the UT-AEC group at Oak Ridge, Tennessee. Studies concentrated on radiation effects on vitamins, minerals, and hormones as well as reproductive function and sperm physiology. The other project was the fluorine study in cooperation with Aluminum Company of America (ALCOA) and other companies, namely, Monsanto Chemical Company and Victor Chemical Company. Hooker Chemical Company and the Tennessee Valley Authority (TVA) also provided assistance. The research was supported primarily through grant monies from these companies.

Because animal science involves a combination of many allied disciplines, including chemistry, biochemistry, biology, microbiology, genomics, and statistics, the types of MS and PhD programs available to students today are more flexible. Areas of research emphases now include various aspects of animal physiology (ruminant and monogastric nutrition, reproduction, stress, and obesity) and health and welfare (behavior, immunology, genomics, microbiology, and pre-harvest food safety). In part, this transition of emphases for our graduate program reflects the changing employment opportunities for our MS and PhD students, which are focused on innovative technologies and the generation of new scientific knowledge to increase animal production and health, and the profitability of the animal industries. Industry-supported grants typically focus on new marketable technologies, taking our research into the realm of intellectual property and patent development. Additionally, emerging funding programs of the USDA and the National Institute of Health are also focused on using agricultural animals as models for human diseases and disorders. All these opportunities are increasingly being sought to find needed funds to support a viable graduate program.

While no permanent records were kept on jobs taken by Animal Husbandry/Animal Science graduates, one would suspect that prior to the 1970's, majority of graduates were employed in some aspect of production agriculture (e.g., herdsmen/managers, livestock grooming and fitting, as well as owner/operators of farming operations). In more recent times, our graduate alumni are finding careers in biotechnical, animal health, or nutrition-based companies, leading their research laboratories, providing technical support, or marketing their products. Others are managing human in vitro fertility clinics, and others are leading the quality control programs for all of the above and other diverse industries. Additionally, some of our graduate alumni are entering other professional programs eventually leading to careers in human and veterinary medicine, dentistry, pharmacy, or law. And as in the past, our MS and PhD students continue to find careers in academia and Extension.

Graduate Program Contacts

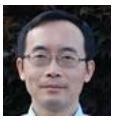
The graduate program director is responsible for monitoring all graduate student activities. Director and program assistant are listed below, along with other graduate committee members. Your primary University contact is your graduate advisor, but any questions or concerns about Graduate School or Handbook policies can be directed to individuals below. We are here to help!

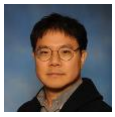
	Graduate Program Director & Committee Chair Dr. Phillip Myer, Professor 355 Brehm Animal Science Bldg. Phone: (865) 974-3184 pmyer@utk.edu
	Graduate Program-Student Support & Record Specialist Brenda Dykes 149 Brehm Animal Science Bldg. Phone: (865) 974-6389 bdykes3@tennessee.edu
	Dr. Lannett Edwards, Graduate *Committee Member*, Professor 250 Brehm Animal Science Bldg. Phone: (865) 946-1011 jedwards@utk.edu
	Dr. Yang Zhao, Graduate *Committee Member,* Associate Professor 360 Brehm Animal Science Bldg. Phone: (865) 974-6466 yzhao@utk.edu
	Dr. Troy Rowan, Graduate *Committee Member,* Associate Professor 360 Brehm Animal Science Bldg. Phone: (865) 974-3190 trowan1@utk.edu
	Dr. Saulo Zoca, Graduate *Committee Member,* Assistant Professor MTREC-SH Administration Building, Spring Hill, TN Phone: (931) 486-2129
	Dr. Kyle McLean, *Graduate Committee Member,* Associate Professor & Undergraduate Program Coordinator, ex-officio, 238 Brehm Animal Science Phone: (865) 974-7351 kmclea10@utk.edu

Graduate Research Faculty

Prospective graduate students should review this list of graduate research faculty to identify individuals engaged in research that is of interest to you. Contact faculty directly to determine their availability and willingness to serve as your graduate mentor and for opportunities for part-time employment as you pursue graduate studies. See the ANSC graduate program website to get better informed of specific faculty research focus areas.

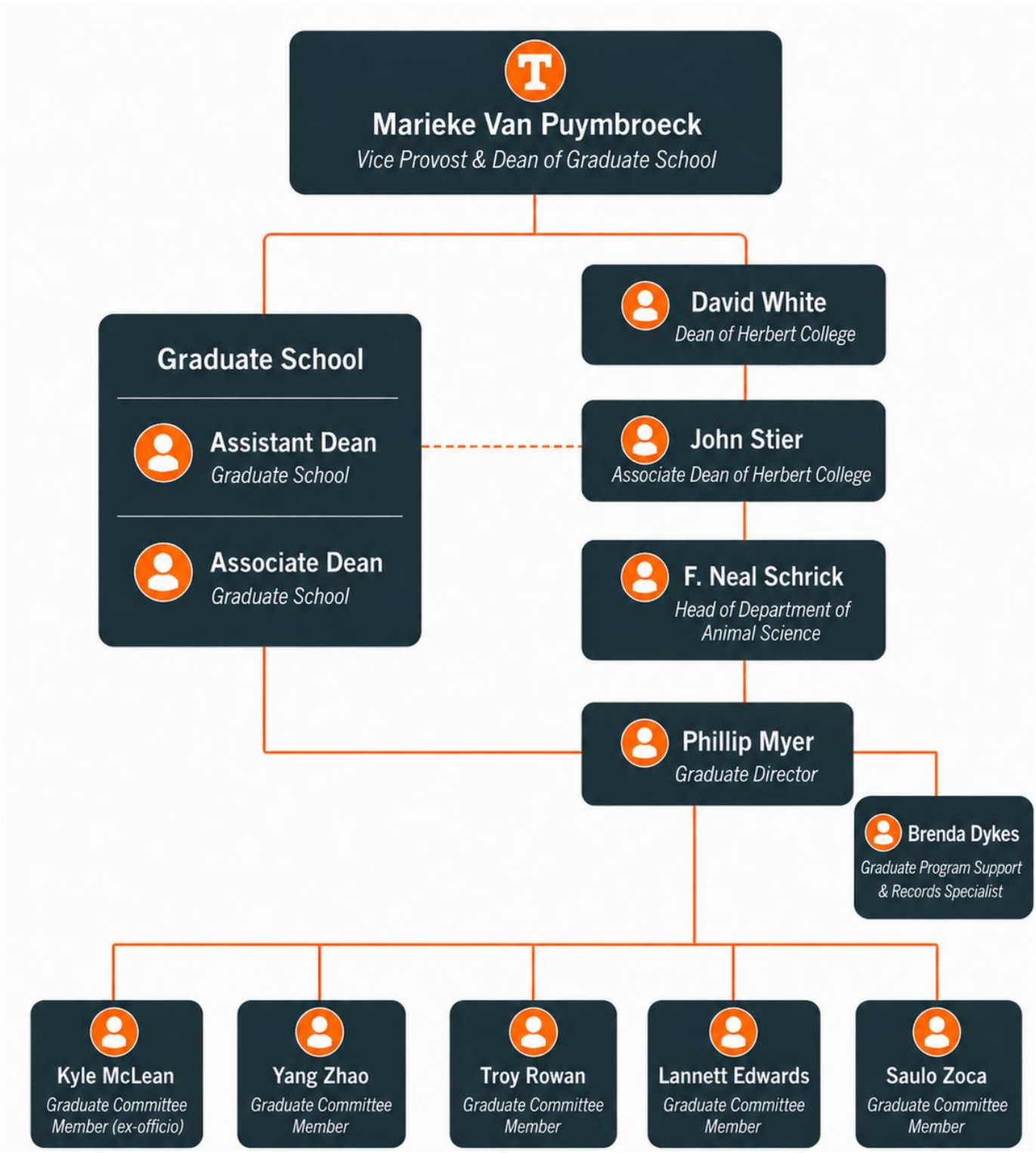
	Dr. Jon Beever Professor and Director of UTIA Genomics Center*;* Professional Interests: Animal Genomics 345 Brehm Animal Science Bldg. Phone: (865) 974-3471 Email: jbeever@utk.edu
	Dr. Marc Caldwell Adjunct Associate Professor Professional Interests: Animal Health and Well Being C222 Large Animal Clinical Sciences Department Phone: (865) 974-5703 Email: mcaldwell@utk.edu
	Dr. Blair Downey, Assistant Professor Professional Interests: Animal Behavior and Welfare 240 Brehm Animal Science Bldg. Phone: (865) 974-7225 Email bcdowney@utk.edu
	Dr. Elizabeth Eckelkamp Associate Professor Professional Interests: Dairy Extension Specialist 244 Brehm Animal Science Bldg. Phone: (865) 974-8167 Email: eeckelka@utk.edu
	Dr. J. Lannett Edwards *Graduate Committee Member,* Professor Professional Interests: Reproductive Physiology and Embryology 250 Brehm Animal Science Bldg. Phone: (865) 946-1011 Email: jedwards@utk.edu
	Dr. Jennie L. Ivey Professor Professional Interests: Equine Nutrition & Extension Specialist 257 Brehm Animal Science Bldg. Phone: (865) 974-3157 Email: jzivey@utk.edu
	Dr. Xiang Li Assistant Professor Professional Interests: Molecular Microbiology & Pathogen Surveillance 362 Brehm Animal Science Bldg. Phone: (865) 974-3577 Email: xli166@utk.edu

	Dr. Jun Lin Professor Professional Interests: Infectious Diseases 344 Brehm Animal Science Bldg. Phone: (865) 974-5598 Email: jlin6@utk.edu
	Dr. Katie Mason Associate Professor Professional Interests: Beef Cattle Nutrition Management 258 Brehm Animal Science Bldg. Phone: (865) 974-8941 Email: kmason21@utk.edu
	Dr. Daniel Mathew Associate Professor Professional Interests: Reproductive Physiology 234 Brehm Animal Science Bldg. Phone: (865) 974-3124 Email: dmathew@utk.edu
	Dr. Kyle McLean Associate Professor Professional Interests: Reproductive Physiology 248 Brehm Animal Science Bldg. Phone: (865) 974-4203 Email: kmclea10@utk.edu
	Dr. Sarah Moorey Associate Professor Professional Interests: Reproductive Physiology and Genomics 248 Brehm Animal Science Bldg. Phone: (865) 974-7286 Email: smoorey5@utk.edu
	Dr. Phillip Myer *Graduate Program Director,* Professor Professional Interests: Nutritional Physiology; Gut Microbiology 355 Brehm Animal Science Bldg. Phone: (865) 974-3184 Email: pmyer@utk.edu
	Dr. Agustin Rius Associate Professor Professional Interests: Dairy Nutrition 250 Brehm Animal Science Bldg. Phone: (865) 974-7286 Email: arius@utk.edu
	Dr. Troy Rowan *Graduate Committee Member,* Associate Professor Professional Interests: Beef Cattle Genomics 256 Brehm Animal Science Bldg. Phone: (865) 974-3190 Email: trowan1@utk.edu
	Dr. F. Neal Schrick Professor and *Head* Professional Interests: Reproductive Physiology and Endocrinology 250 Brehm Animal Science Bldg. Phone: (865) 974-3147 Email: fschrick@utk.edu

	Dr. Elizabeth Shepherd, Assistant Professor Professional Interests: Immunology 341 Brehm Animal Science Bldg. Phone: (865) 974-9379 Email: eshephe4@tennessee.edu
	Dr. Daniel Sim Assistant Professor Professional Interests: Precision Animal Health 361 Brehm Animal Science Bldg. Phone: TBD Email: dsim@utk.edu
	Dr. Lew Strickland Professor Professional Interests: Reproductive Physiology & Animal Health 246 Brehm Animal Science Bldg. Phone: (865) 974-3538 Email: lstrick5@utk.edu
	Dr. Tom Tabler Professor Professional Interests: Poultry Extension 1004 Main Entrance Drive, Spring Hill, TN Phone: (931) 486-2129 Email: gtabler@tennessee.edu
	Dr. Kelly Vierck Assistant Professor Professional Interests: Meat Science 232 Brehm Animal Science Bldg. Phone: (865) 974-2887 Email: kvierck@tennessee.edu
	Dr. Brynn H. Voy Professor Professional Interests: Adipose Tissue, Obesity, Adipokine, Genomics 238 Brehm Animal Science Bldg. Phone: (865) 974-3130 Email: bhvoy@utk.edu
	Dr. Brian Whitlock Adjunct Professor, Professional Interests: Reproductive Physiology/Theriogenology C217B Large Animal Clinical Sciences Department Phone: (865) 974-5701 Email: bwhitloc@utk.edu
	Dr. Yanqiu Yang Assistant Professor Professional Interests: Precision Beef Systems 235 Brehm Animal Science Bldg. Phone: (865) 974-9740 Email: yyang118@tennessee.edu
	Dr. Yang Zhao *Graduate Committee Member,* Associate Professor, Professional Interests: Precision Poultry Farming 360 Brehm Animal Science Bldg. Phone: (865) 974-6466 Email: yzhao@utk.edu

	Dr. Saulo Zoca, Graduate *Committee Member,* Assistant Professor MTREC-SH Administration Building, Spring Hill, TN Phone: (931) 486-2129 Email: szoca@utk.edu

Administrative Organization



Responsibilities of Faculty and Graduate Students

This section covers rights and responsibilities which are peculiar to graduate students, and which may not be mentioned in the Graduate Catalog. Those rights and responsibilities which are viewed as more general and applying to all students, both graduate and undergraduate, are discussed in *Hilltopics* (http://hilltopics.utk.edu/). It is YOUR responsibility to satisfy all deadlines and requirements of the Graduate School as listed in the Graduate Catalog.

Right to Learn. The University of Tennessee has a three-fold purpose: Instruction, Research, and Public Service. All of these involve graduate students, as graduate students are necessary for carrying out each of the three purposes. No student may interfere with the learning process, another's research, or a public service program (as determined by the University).

Code of Professional and Academic Standards. You have the right to be informed concerning departmental, professional, and academic policies and procedures that affect you. You should be informed of these during the initial semester in which you enrolled, and this handbook is one component of that. It is **your** responsibility to be familiar with the departmental program, collegiate policies and procedures, and to ask questions if the information is not clear or if it is not provided.

Change of Degree Requirements. Normally, you have the right to be evaluated according to the requirements of the program under which you entered. However, departments/colleges have the right to change program requirements and apply them to students already admitted provided adequate notice is given and the requirements are not made retroactive to parts of the program already completed by you. You should expect to receive periodic assessments of your progress reflecting current requirements - ask for this if you do not get it. Current requirements will be given in each Fall semester's edition of this Handbook.

Academic Programs are Decided by the Faculty. The rights for making policies about academic programs are vested with the faculty. Students may contribute to the decision through invited participation in committee efforts, or through contributions of their own initiative. The Graduate Committee and faculty always welcome your feedback.

Confidentiality of Records. Most of your academic records are confidential. The Animal Science department may not release grades, etc. to anyone without your permission, not even your parents! Only you and staff and faculty involved in your training may view your records. Information concerning confidentialities may be found in the current edition of *Hilltopics* http://hilltopics.utk.edu/.

Grievance Procedure. Normally grievances should be handled at the departmental level through the student's major professor, Graduate Director, or the department head. Further appeal may be made to the Dean of Herbert College of Agriculture, then to the Graduate Council and Dean of the Graduate School. Students should familiarize

themselves with the Graduate Council Appeal Procedure found at https://gradschool.utk.edu/graduate-council/appeals-committee/the-university-of-tennessee-graduate-council-appeal-procedure/. You can contact any member of the Animal Science Graduate Committee for advice on your circumstances. Appeals should be filed within 30 days of the event that created the grievance.

Academic Standards of Conduct

As per Graduate Catalog and Hilltopics

Academic integrity is a responsibility of all members of the academic community. An honor statement is included on the application for admission and readmission. The applicant's signature acknowledges that adherence is confirmed. The honor statement declares the following:

An essential feature of the University of Tennessee, Knoxville, is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.

Dismissal from the Animal Science Graduate Program, Graduate School and/or University or any lesser penalty may result from any of the following examples of misconduct or other forms of gross misconduct as defined by Human Resources, Dean of Students Office, Hilltopics or Graduate Council as conveyed in the graduate catalog.

Plagiarism

Students shall not plagiarize. Plagiarism is using the intellectual property or product of someone else without giving proper credit. The undocumented use of someone else's words or ideas in any medium of communication (unless such information is recognized as common knowledge) is a serious offense subject to disciplinary action that may include failure in a course and/or dismissal from the graduate program and university.

Plagiarism examples:

- Using without proper documentation (quotation marks and a citation) written or spoken words, ideas, phrases, or sentences from any source
- Summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge)
- Borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source (unless such information is recognized as common knowledge)
- Collaborating on a graded assignment without instructor's approval
- Submitting work, either in whole or in part, created by a professional service or any individual for hire

Caution should be exercised by students involved in collaborative research to avoid questions of plagiarism. If in doubt, students should check with the major professor or the Graduate Committee. Alleged plagiarism will be reported to and investigated by the Office

of Student Conduct & Community Standards when suspected and prosecuted to the fullest extent possible if established. The onus is on you, the student, to ensure graduate work is plagiarism free. The Graduate School now requires that all theses and dissertations be scanned with ***iThenticate***, a plagiarism detection software, before uploading final version in Vireo. It is a ***free resource****. We encourage you to use it throughout your graduate program on any written document you may derive, even if a part of comprehensive exam.*

Academic Dishonesty

Academic dishonesty will also be prosecuted and can lead to dismissal from the university. Dishonesty must not occur in academic coursework and must not occur during the conduct of your research program.

Examples include, but not limited to

- Academic cheating
- Furnishing false information with the intent to deceive
- Eliminating data with no basis
- Misrepresenting sample population
- Falsification or fabrication of data

Expectations of Animal Science Graduate Students

Professionalism

The purpose of graduate training is to develop a considerably higher degree of professionalism. Whereas an undergraduate is trained as a generalist, the graduate student is trained as a specialist. The earning of a graduate degree carries with it an understanding that you have achieved a certain level of professional competence. Thus, the graduate program must be designed to accomplish this.

Time Required for Graduate Study

Time required for a graduate program varies with the nature of your research program, your previous preparation and your individual ambition or motivation. Normally, an MS degree requires 2 years while a PhD requires 3 years beyond thesis-based MS degree. Students willing to devote more hours per day to their tasks will generally finish earlier, have a more productive graduate experience, and greater opportunities when finished.

Ownership of Research

Research is a *major* component of our thesis- and dissertation-based MS and PhD programs. Much of the research you will conduct as a part of meeting degree requirements will stem from your major professor's programmatic research efforts. You should expect to spend much of your time working with your major professor learning various aspects of the scientific method: reviewing the scientific literature, constructing compelling research proposals, conducting research studies, and composing peer-reviewed journal articles.

Although an individual student invests considerable effort, time, and talent into MS or PhD research projects, the University, the department, and your major advisor have a significant financial investment/interest in any research conducted within the department. The costs of all materials and supplies, animals, salaries of farm and technical personnel, and facilities, etc. are underwritten by the Institute of Agriculture and/or granting agencies or industry. Resources may have been or will be procured by the project leader which is typically your graduate advisor (major professor). The University of Tennessee Institute of Agriculture legally owns any research performed by the department and ownership is under the control of the project leader.

Given the above, the Graduate School suggestion that the student owns the copyright of their thesis or dissertation is problematic for several reasons. The research outcomes described within the thesis/dissertation documents are the result of multiple institutional and individual contributions. These multi-contributor efforts are not only related to conducting the research, but also collaborative efforts related to composing/editing research chapters within the document. Because of the multi-institutional and multi-contributor involvement in any faculty member's research program within our department, it would never be acceptable for a student to present thesis/dissertation research outcomes as the sole contributor or publish findings without including all relevant contributors. Students should expect their major professor and other contributors to be involved in multiple rounds of scientific peer-review of the chapters and journal-formatted manuscripts. This process will contribute substantially to the final presentation (in written form within the thesis/dissertation and the journal-ready manuscripts) highlighting the research outcomes and is imperative for the timely publication of research outcomes to withstand the rigor of the external peer review process. Students should expect that the major professor will be listed as corresponding author on any resulting publications, unless otherwise indicated.

These details serve as basis for requiring the student to ***obtain permission from their major professor before including a copyright page in the thesis or dissertation as sole contributor.*** It is recognized that copyright applies only to the written expression, not to the data. If the major professor approves and signs the copyright page and the Graduate School assigns sole copyright to the student, their professor may continue to use/publish the data without violating the copyright after submission of the thesis/dissertation.

Publication of Research in a Peer-Reviewed Journals

There is a variety of research performed within the department and across UTIA, and therefore, it is difficult to set minimum research standards for the MS and PhD degrees; however, in all cases *high quality*, *relevant work* should be yielded. It is incumbent upon the major professor and the student's advisory committee to ensure the proposed research is of high quality and worthy of awarding credits for research and thesis/dissertation in fulfillment of the degree requirements. As a guideline, an MS thesis should result in the production of at least one peer-reviewed publication and a PhD dissertation should result in two or more publications. It is in the best interests of the department, mentor, and student to publish research results/outcomes with minimal delay. Therefore, manuscripts emanating from thesis or dissertation research are

expected to be submitted to the student's graduate advisory committee before or at the time the completed thesis/dissertation is submitted.

Since the ultimate goal of any research effort is publication of results, the student must work with their graduate mentor to ensure that the research conducted under their mentorship is published within a reasonable length of time after completion of research. If it is not published before final submission of the thesis/dissertation (i.e., before you meet graduation requirements), the student must talk with their graduate mentor to determine if the student should request an embargo. In most instances, an embargo is necessary in which the research outcomes described in the thesis have yet to be published in a scientific-peer reviewed journal. The embargo time period is finite but is required by some publishers to ensure they have the opportunity to publish findings before the research becomes publicly available through Vireo. Depending on timeline to publication and different publisher requirements, the student may need to request an extension of the embargo period. The student must keep their mentor informed of the embargo approval and the date for which it may expire due to the importance of publications for the mentor's research programmatic efforts. After leaving the university, the mentor may need to request an extension on behalf of the student depending upon the publisher requirements.

As researchers, graduate mentors *must* publish research outcomes emanating from your designated/assigned project. The length of time deemed reasonable for the student to continue to contribute to their mentor's efforts to publish results will vary with the nature of the research, granting agency, and any extenuating circumstances. If the project leader determines that the student has failed to write up the thesis/dissertation research outcomes in a reasonable length of time (usually three to six months after obtaining the data), the major professor may proceed to prepare the scientific manuscript for publication. This would naturally preclude use of the data for an MS thesis or PhD dissertation, as it will no longer be the student's work; the student may or may not be included as a coauthor in this instance. If research outcomes are described in the thesis/dissertation, but the student fails to contribute to describing outcomes in a scientific manuscript for peer-review after the degree is completed, their major professor may proceed to prepare a scientific manuscript for publication that may or may not include the student as first author or as a coauthor.

Authorship of Manuscripts

Authorship resulting from research programs is a measure of recognition for the individuals who made substantial contributions to the research effort. The responsibility for inclusion and establishing the order of authorship for any article rests with the project leader. Discipline-relevant journals often provide authorship criteria with some requiring the contributions of each individual author to be listed. The subject of authorship should not be taken lightly by the project leader and should accurately reflect the relative contributions of those involved. Generally, the student will be first author on publications based on their research, but that assumes the student has taken the primary responsibility for writing the manuscript. Generally, the student will not be first author if they have left the university and have not continued contributing to write manuscript(s).

Authorship should be established by determining the specific contribution of each person in the conduct of the research. Those who made significant inputs in the planning, execution, analysis, and evaluation of the research should be considered for authorship. People who performed routine functions as a part of their position description aren't always included as an author. Other types of recognition can be given to contributors who do not warrant author status (i.e., acknowledgements and footnotes). Of course, many people who may contribute to the success of the research effort and the completed manuscript are never recognized because of the nature of their work assignments. Since so many different people with different skills are usually associated with the conduct of any experiment, it becomes an impossible task to attempt to recognize all who made contributions through authorship.

Thesis Acknowledgments

Thesis contents may describe outcomes of a single research study or those resulting from different studies. Although it is customary to acknowledge family and others that may have been supportive to the student in different ways, it is also appropriate to compose an acknowledgment recognizing the funding source(s) that provided graduate assistantship or other types of support important to cover research-related expenses. It is also expected that the student acknowledges individuals who may have provided intellectual and technical expertise important for the development, implementation, analysis, and interpretation of the obtained outcomes. In cases of theses/dissertations with more than one research chapter describing outcomes of different efforts to test different hypotheses, the student should include an acknowledgment at the end of each research chapter acknowledging different funding sources and the multi-contributors for their different roles in research studies. In cases where research outcomes are published before the final submission of the thesis, the student should include the full journal citation at the beginning of the relevant chapters, providing names of all authors, the manuscript title, the journal name, the volume, and page numbers (doi if available). The student will need to talk with their major professor to determine the extent to which the copyright was signed over to the publisher. If this occurred, additional effort is important to work with the major professor to determine if the publisher allows for utilizing content in theses/dissertations.

Involvement in Departmental Functions

You should take advantage of every possible opportunity to improve your professional abilities, and in fact this is **expected.** This includes not only formal coursework, but all department and institutional seminars, defense seminars, and journal clubs when available. Depending on the source of your part-time employment opportunity, assisting in the classroom is also an expectation. The greatest learning experiences may be through exercising an intensely inquisitive mind by reading current literature in the field, informal discussions with faculty, staff and other graduate students, attendance at scientific meetings and participation in many other functions of the department. Indeed, much can be learned in classic discussion with fellow graduate students. Students unwilling to participate in these will miss much in their program and may take longer to earn the degree.

Membership in Professional Organizations

Membership in professional organizations, including but not limited to American Society of Animal Science, American Dairy Science Association, Poultry Science Association, and the American Association of Veterinary Immunologists is highly encouraged. Many societies have "associate" or "student affiliate" memberships for graduate students at reduced cost. Remember you are training for a profession and should begin to direct your interests accordingly.

Teaching Activity and Research Project Training and Approvals

Teaching and research are likely to require the use of animals, which requires IACUC (Institutional Animal Care and Use Committee) approval. As a member of the Animal Science department, you are required to successfully complete IACUC training and participate in OHP. Similarly, there are safety regulations for laboratory work, and you must undergo all necessary training. Committees on Biosafety, Radiation Safety, IRB monitor research activities that use hazardous materials and use of human subjects. If your research involves human subjects in any way, the University IRB must approve the research plan. Details can be found in the Research Office. Expectation is for these trainings to be successfully completed as soon as feasibly possible but before participating in any activity requiring said training.

Admission Requirements for MS and PhD Programs

To be considered for admission, a student must have at least a 3.0 grade point average (GPA) on a 4.0 scale in a completed undergraduate degree program in Animal Science or related field (or at least a 3.0 GPA each term during the junior and senior years). Prerequisite courses with grade of B or higher may be required if the applicant has insufficient background or low GPA.

Domestic students must satisfy the GPA above 3.0 requirement in any graduate work they have completed. International students that have taken graduate classes must have a 3.3 GPA for previous graduate classes (https://gradschool.utk.edu/admissions/).

In addition to the materials to be submitted to the Office of Graduate Admissions, applicants must request at least THREE Animal Science rating forms be submitted by professors familiar with the applicant's scholastic ability and professional potential. At least two of the three individuals requested to provide a rating form must be from the applicant's former academic institution(s). It is critical for the individuals providing references to hold similar academic credentials as the position the applicant is seeking to provide a meaningful assessment of the skills and abilities the applicant possesses relative to success in a research-based graduate program. If the applicant was previously enrolled in a graduate program, one rating form must be completed by the graduate mentor (major professor).

Admission will be contingent upon evaluation of the applicant's undergraduate or graduate grade point average, information provided by evaluators or others, educational and career goals, relevant experience, and scores from the TOEFL or IELTS, if applicable. Final admission is contingent upon the applicant obtaining a commitment from a graduate research faculty member to serve as their graduate mentor (major professor).

Applicants to the PhD program normally should have completed a MS degree with thesis before beginning the doctoral program. In exceptional cases where a student is admitted to PhD program having only a BS and/or DVM but no thesis-based MS degree, they would normally be expected to obtain a Concurrent MS degree. If on an assistantship, the student will start at MS pay rate (for departmental support – mentors can supplement as desired). Student is required to submit a manuscript containing their initial original research efforts to a scientific peer-reviewed journal. Submitted manuscript would then be formatted as a thesis and presented in an oral defense. Upon completion of MS degree requirements (24 graduate credit hours + 6 credit hours of ANSC 500), the student would then be paid at PhD rate and be expected to complete remainder of PhD requirements and milestones as stated in graduate catalog and herein.

Accelerated Five Year BS-MS Program, Animal Science Major

For qualified students, the Department of Animal Science offers an accelerated 5-year BS-MS degree program with a BS major in Animal Science and a thesis-based MS major in Animal Science. Central to this program is that a qualified student may take up to 9 credit hours of graduate level courses for their senior undergraduate electives and have them count toward both the BS degree and the MS degree. Students are typically considered for conditional admission to the program during, or immediately following, their third year of undergraduate study at UT. Because the MS program requires that a student write a thesis based on original research, efforts related to developing and starting a research-based project in consultation with a graduate advisory committee (that meets MS committee requirements) is required immediately following their third year of undergraduate studies.

To be considered for conditional admission to the program:

- A student must be a declared Animal Science major with a minimum GPA of 3.4, must have completed at least 15 credit hours in Animal Science, and must have completed at least 90 credit hours of the 120 credit hours of coursework required for the BS degree with a major in Animal Science.
- A student must provide three letters of recommendation and complete a personal interview with individuals comprising the Graduate and Undergraduate Committees in the Department of Animal Science.
- A student must obtain a commitment from an Animal Science graduate research faculty member to serve as their graduate mentor-advisor (i.e., major professor) and at least two other graduate research faculty members to serve on their graduate advisory committee.

Applicants are required to have completed at least 6 credit hours from the following Animal Science core courses (i.e., ANSC 320, ANSC 330, ANSC 340, ANSC 380 or their Honors counterparts). The Department may consider other relevant factors such as an applicant's work experience and level of maturity before conditionally admitting a student to the BS-MS program. Conditional admission of a student into the 5-year BS-MS program must be approved by the Department of Animal Science and the Graduate School. Students will be typically informed of the outcome of their application before the beginning of their fourth year of undergraduate study.

Any graduate course that is to be counted towards both the BS degree and the MS degree must be approved by the student's graduate advisory committee, the departmental Graduate Director, and by the Graduate School. These courses must be identified, in consultation with the graduate advisory committee members. The form "Animal Science Conditional Admission 5 Year BS-MS" is available from the Graduate Director and must be completed, signed by the student, the student's graduate advisory committee, the Undergraduate Coordinator, and the Graduate Director before submitting to the Graduate School for approval and processing.

A student that is conditionally admitted to the BS-MS program may complete up to 9 credit hours of graduate level coursework during the student's undergraduate study and apply those 9 credit hours to satisfy both the BS degree requirements and the MS degree

requirements, provided that these graduate credit hours were approved by both the Department and by the Graduate School. To receive graduate credit for the 9 credit hours listed on the Animal Science Conditional Application form and approved by their graduate advisory committee, and others granting approval by signing that form, the student must complete and submit the Senior Requesting Graduate Credit Form to the Graduate School. If courses are to be taken during different semesters, the student will need to submit this form before the start of per each relevant semester.

Conditional admission into the BS-MS program does not guarantee acceptance into either the Graduate School or the MS program. Students in the BS- MS program must apply for admission to the Graduate School and to the MS program during their fourth year of undergraduate study, following the same procedures that all other student applicants follow. Students will be fully admitted to the MS program after they have been accepted both by the Graduate School and by the Animal Science MS program. Students will not be eligible for graduate assistantships until they are enrolled as graduate students in the Graduate School.

Accelerated MS-DVM Program, Animal Science Major

For qualified students, the Department of Animal Science offers an accelerated MS degree program for individuals pursuing a doctor in veterinary medicine degree. Central to this program is that a qualified veterinary student may have up to 9 credit hours of veterinary medicine courses count toward both the Doctor of Veterinary Medicine degree and the MS degree. To this end, a student may earn the DVM and MS in about five to five-and-a-half years rather than the six to six-and-a-half years that otherwise would be required.

Normally, students will be considered for conditional admission to the program during, or following, their first year of veterinary medicine study at the University of Tennessee, College of Veterinary Medicine. Because the MS program requires that a student write a thesis based on original research, efforts related to identifying a graduate mentor (i.e., major professor) and starting a research-based project in consultation with a graduate advisory committee (that meets MS committee requirements) are appropriate in and around or following their first year of veterinary study. The major professor, an animal science faculty member at the rank of assistant professor or above, chairs the student's graduate advisory committee. The student and major professor select the other members of the advisory committee which should contain at least two other faculty members at the rank of assistant professor or above, one of whom may be outside the Animal Science Department. The student's advisory committee assists in the planning of course work and may require specific courses in addition to those required by the Animal Science graduate program. The student's graduate advisory committee also aids in formulating an appropriate research project and assesses achievement of other degree requirements, including the research proposal and thesis defense.

Areas of research emphasis are animal physiology (e.g. ruminant and monogastric nutrition, reproduction, stress, and obesity), and health and welfare (e.g. immunology, microbiology, pre-harvest food safety and behavior) and genomics. Programs emphasize experiential learning with animal species, including beef and dairy cattle, poultry, swine, small ruminants, and animal models for human disease. See the Department graduate

program website for a listing of graduate research faculty and their specific research focus areas.

An Animal Science Conditional Admission Application Form for the Five Year DVM/MS program is available from the Animal Science Graduate Program Director and must be completed by the applicant. In order for a veterinary student to be considered for conditional admission to the Animal Science MS program,

- A student must be a declared Veterinary Medicine major with a minimum GPA of 3.0 and must have completed at least one semester of coursework required for the Doctor of Veterinary Medicine degree.
- A student must obtain a written commitment from an Animal Science graduate research faculty member to serve as their graduate mentor- advisor (i.e., major professor) and identify at least two other graduate research faculty members to serve on their MS graduate advisory committee.
- A student must coordinate the provision of three letters of recommendation (one from an individual willing to serve as their major professor and two from other faculty members willing to attest to their potential to do well in a thesis-based MS degree program). Letters should be submitted directly to the Animal Science Graduate Program Director by the individuals providing recommendation.
- A student must interview with individuals comprising the Graduate Committee in the Department of Animal Science and selected individuals in the College of Veterinary Medicine.

The Department may consider other relevant factors such as an applicant's work experience and level of maturity before conditionally admitting a student to the Animal Science MS program. Conditional admission of a student must be approved by the Department of Animal Science, College of Veterinary Medicine, and Graduate School. Conditional admission into the Animal Science accelerated MS program does not guarantee acceptance into either the Graduate School or the Animal Science MS program. Students would normally apply for admission to the Graduate School and to the MS program during their fourth year of study in the DVM program, following the same procedures that all other MS applicants follow. Students will be fully admitted to the MS program after they have been accepted both by the Graduate School and by the Animal Science MS program. Students will not be eligible for graduate assistantships until they are enrolled as a graduate student in the Department of Animal Science.

In order for veterinary medicine courses (up to a maximum of 9 credit hours) to count toward both the Doctor of Veterinary Medicine degree and the Animal Science MS degree, student must earn a grade of at least a "B" in A - F graded courses. Eligible coursework must be completed before satisfying all requirements for the DVM degree. Courses to be used for MS graduate credit must be approved by both the individual's graduate advisory committee and by the Animal Science Graduate Director. These courses should be identified, in consultation with the student's graduate advisory committee members and must be listed on the Animal Science Conditional Admission Form for the Five Year DVM/MS program. In cases where veterinary medicine courses that are to be used for the Animal Science MS degree are completed before applicant requests consideration for conditional admission (e.g., animal physiology or other

courses), this coursework may be used for MS degree if the individual obtains approval from their graduate advisory committee and the Graduate Director.

The Animal Science Conditional Admission Form is available from the Animal Science Graduate Program Director and must be completed, signed, and submitted to the Animal Science Graduate Program Director, College of Veterinary Medicine, and the Graduate School for final approval and processing for conditional admission.

Application Procedures for MS and PhD Programs

Please review the following information carefully as success of your application will depend on submission of the following materials to the Office of Graduate Admissions. More detailed instructions are provided by the Office of Graduate Admissions. Individuals interested in applying for the MS or PhD program please provide items detailed in 1-4 appearing below. Individuals interested in applying for our accelerated five-year BS-MS or MS-DVM Programs, contact Dr. Phillip Myer by email (pmyer@utk.edu) to obtain application.

1. GRADUATE APPLICATION FORM
APPLY ONLINE As part of the online application, you will identify at least ***THREE*** individuals able to assess your previous academic and/or research experience and ability to succeed in graduate studies. Two out of three of these individuals must be from your former academic institution(s). If you were previously enrolled in a graduate program, your graduate advisor should be chosen as one of your evaluators. A decision will not be made regarding admission without these materials - contact Brenda Dykes below to monitor your application status.

As part of the application process, you are expected to identify potential major professors to mentor you. See the list of graduate research faculty to assist with this, and email individual faculty for more information and to determine their willingness to mentor you.

2. APPLICATION FEE
(Non-refundable and must accompany application)

3. TRANSCRIPTS
(One transcript from all colleges and universities attended; do not send until you apply)

4. TOEFL IELTS or Duolingo language proficiency scores
(if your native language is not English)

Attention International Students: See also the Admission Guide for International Students:

- Pay particular attention to deadlines
- Note that additional forms are required

Please contact us if you have questions or wish to schedule a visit.

Brenda Dykes (bdykes3@tennessee.edu)
865-974-6389
Department of Animal Science
University of Tennessee
2506 River Drive
149 Brehm Bldg
Knoxville, TN 37996-4574

Part-time Employment Opportunities

A limited number of opportunities are available for students in the form of part-time employment while pursuing the MS or PhD degree. These opportunities are in the form of teaching assistantships, research assistantships, and biweekly payroll assignments. Reappointment is based on continued progress towards the degree. The expectation is that support will be terminated after 2 years for MS and 3 years for PhD students.

Assistantships are awarded only to students who have exhibited a high level of scholarly achievement. This is done to ensure that the student can complete a rigorous and high-quality graduate program while carrying out the responsibilities inherent to an assistantship. Assistantships are part-time employment and differ from scholarships or fellowships awarded solely based on merit, allowing students to focus on their courses and research project. Students who receive assistantships or biweekly payroll assignments are expected to exhibit the same degree of commitment, responsibility, and accountability as any other staff member employed by the University. Continuation of part-time employment is contingent upon adequate progress in the degree program, as described in the Evaluation section.

The department assumes that any student on assistantship will have no other employment outside the University.

Graduate Research or Teaching Assistantships

In the department, both teaching and research assistantships are available to students and gives them the opportunity to work within the department to enhance their training. The number of assistantships available each year varies with funding available to the department and individual faculty members. Students are expected to provide 10 hours minimum service for a ¼ time assistantship, 20 hours minimum service for a ½ time assistantship, and 30 hours minimum service for a ¾ time assistantship, per week. These duties can and often fall outside a student's thesis or dissertation research responsibilities.

Graduate Teaching Assistantships (GTA)

Graduate Teaching Assistants work under the direct supervision of a teaching faculty member in activities such as helping to prepare lectures, teaching discussion sections, conducting laboratory exercises, grading papers, keeping class records, etc. The GTA should not be considered as support for your research activities, and adequate progress in the research program is expected beyond the assistantship duties. During the summer semester, when classes normally are not held, GTAs should report to the department head for work assignments.

A GTA orientation provided by the Graduate School is required in the fall of your first year. All GTAs whose first language is not English must be registered with the ITA Testing Program (http://gradschool.utk.edu/graduate-student-life/ita-testing-program/) and pass the OPIc exam before assuming teaching responsibilities.

Graduate Research Assistantship (GRA)

GRAs at the MS and PhD levels will generally be defined as ¼ or ½ time employment. When GRAs are not in class, they should be available to assist their major professor and the department. GRAs may be assigned teaching duties, particularly if the GRA is funded from departmental sources. The purpose of graduate research assistantships is to further the major professor or department's research goals. It is not payment for your time spent on a thesis or dissertation project.

Graduate Student Competitive Stipend

For applicants to the MS or PhD programs, after an affirmative vote by the Graduate Committee and department head approval, mentors may supplement the GRA/GTA stipend offer by a fixed amount (see Business Manager for this amount) using soft money sources. The supplement may be renewed on an annual basis given satisfactory degree progress.

Benefits

Graduate assistants are a special class of university employee. The IRS considers assistantship support taxable, as it is not a fellowship or scholarship. It is a type of employment with the following benefits.

- Annual stipend
- Costs associated with required coursework (i.e., for MS students the maintenance fees for 24 graduate credit hours plus 6 hours of ANSC 500). Note that you would be responsible for special course fees (see Bursar's website)
- Costs associated with fees including health, library, technology, facilities, transportation
- Health insurance
- While you do not earn sick leave or vacation days, flexibility in scheduling can be obtained from your supervisor

It is important to note that maintenance fees are a real expense to the department or other funding source. Therefore, enrolling in excessive hours not approved by your advisory committee or unnecessary to meet degree requirements is not permitted. Should you do so, or fail to complete a course (grades D, F or W), YOU may be personally responsible for maintenance fees for that course.

Bi-weekly Payroll Assignments

Several graduate students have been hired on a part-time basis to assist in teaching and research operations. These students are paid on an hourly basis and generally have more flexibility as to the time for performing their duties.

Fellowships

Several fellowships are available through the Graduate School. These awards are for full-time study at UT Knoxville, and awardees are selected on the basis of high achievement, broad intellectual ability, and potential for significant career contributions.

Registration Procedures and Requirements

Registration online procedures, information and requirements are available on Registrar's website and in the Graduate Catalog. Be sure to pay your fees, or your registration will be cancelled!

Departmental recommendations and requirements are as follows:

- Graduate students must provide their major professor the opportunity to review and approve courses before registering for any given semester.
- Use of Student Health Services is dependent on registration/enrollment in at least 3 credit hours (Fall/Spring semesters) and payment of student health fee.
- Registration/completion of at least 3 credit hours of ANSC 500 or 600 is required the semester in which the thesis/dissertation is to be accepted by the Graduate School. Careful planning is needed to ensure that these credits are not taken excessively. Unnecessary course maintenance fees (excessive registration or withdrawal from a course without your advisory committee permission) may be your personal responsibility.
- To obtain approval from graduate director to register for ANSC 500 or 600, you must send an email to the graduate director (CC your graduate mentor and Brenda Dykes) indicating the number of ANSC 500 or 600 completed to date, expected timeline for graduation consistent with Graduate School's 1st or 2nd deadline for relevant semester, and the number of ANSC 500 or 600 hours you are requesting for registration. In this email, be sure to state that you have met with your mentor and that they agree that you are on track to graduate within stated timeframe.
- To request the opportunity to register for ANSC 600 for the first time, be sure to state that you have completed comprehensive exam and provide pass date. In cases where comprehensive exam has not been completed, provide date(s) it is scheduled. It is expected that majority if not all graduate coursework would be completed with comprehensive exams completed or soon to be completed before ANSC 600 registration.
- Because continuous enrollment is required for ANSC 600, please avoid beginning your registration in ANSC 600 in the spring semester (because this then requires registration in the summer).
- As per graduate catalog, continuous enrollment is required and maintained by registering for a minimum of one graduate credit hour per semester (excluding the summer). Graduate students who have started taking dissertation hours (course 600) must maintain a minimum of three credit hours per semester during all semesters, including the summer.
- If you do not register for any coursework in either Spring or Fall semesters, you will need to reapply for admission to the Graduate School.

- ***Graduate Assistants*** (i.e., GRAs, GTAs or GAs) must register for at least 3 graduate credit hours during the Fall and Spring semesters to utilize the health insurance benefit.
  - ANSC 500, 600 or 502 registration requires approval of the Graduate Director
  - While it is possible to register up to the maximum allowable credit hours as per graduate catalog, be informed that the department covers only those costs

associated with required coursework (e.g., 24 graduate credit hours plus 6 hours of ANSC 500 for MS program). Students may be required to reimburse department for costs associated with “excessive” coursework not central to program of study.
  - Do not withdraw from a class unless approval from graduate advisory committee has been obtained. You may be personally responsible for any resulting maintenance fees unless there are extenuating circumstances.

- **F1 International Students** are responsible for maintaining legal status and valid documents. The Center for Global Engagement (CGE) is the central office for providing advice for international students. Students must contact them directly and ahead of time when in need of advice for maintaining legal status. Details for international students can be found at maintaining status.
  - Graduate assistants (GA/GRA/GTA; 0.5-time appointment working a minimum of 20 hour per week) must register/enroll/complete at least 6 graduate credit hours each Fall and Spring semester
  - All others must register/enroll/complete 9 graduate credit hours each Fall and Spring semester
  - Students must obtain permission from CGE ***before*** registering for less than the number of credit hours required to achieve full-time status.
  - Some changes in registration are also subject to Graduate School approval.
  - Courses taken for audit credit do not count towards immigration requirement for maintaining full-time enrollment
    - In the final term a student may register for only the minimum credit hours required to graduate, however ***written permission from CIE is required before registration*** (contact a CIE advisor for additional information)
    - Students must always maintain a valid I-20 during program of study

The program requires that you write a thesis based on original research, completion of 24 credit hours of graduate coursework, plus 6 credit hours of ANSC 500. Coursework must include the following:

- 24 credit hours coursework
  - Minimum of 14 hours 500+ courses (not including ANSC 500, ANSC 502)
  - 1 credit hour of teaching/Extension experiential learning (e.g., AGNR 512; ANSC 513)
  - 3 credit hours statistics approved for use in the Intercollegiate Graduate Statistics and Data Science Program (IGSDSP)
  - 1 credit hour of research ethics (e.g., ANSC 525)
  - 3 credit hours of graduate-level multi-systems physiology coursework (approved by your advisory committee e.g., ANSC 520)
  - You are required to pass ANSC 696 each spring term of your first and second year.
- 6 credit hours thesis research (ANSC 500)
- **Minimum credit hours = 30**

No graduate student may repeat a course for the purpose of raising a grade already received.

See Appendix I for further descriptions of courses commonly taken by Animal Science graduate students. You will select the remainder of coursework based on your area of emphasis and professional objectives, in consultation with your major professor and advisory committee. Generally, it is recommended that a 400-level animal production course be taken if your Animal Science background is limited, and a molecular biology course can be useful for all life science research. A majority of coursework must be completed at the University of Tennessee. A maximum of 10 hours may be transferred from institutions outside the University of Tennessee system with approval by your advisory committee and the UT Graduate School.

Master's Committee

During the admission process, you identified and were assigned a major professor who will provide the training to help you attain the degree and career goals. Your major professor directs your research and thesis program.

A minimum of 3 faculty members at the rank of assistant professor or above, one of whom must be a non-adjunct Animal Science faculty member, will constitute your advisory committee. The major professor will chair the committee. You and your major professor select at least two additional committee members, one of whom may be outside the Animal Science Department. Take effort to select individuals that will be actively engaged research planning, conduct, analysis and/or interpretation thereafter. Expect enough from each such that their efforts may warrant co-authorship on resulting publications. The committee members should be chosen **during your first semester**. Your advisory committee will assist you in planning a course of study **before or by the first part of the**

second term of your graduate program. Your advisory committee may require and/or recommend specific courses in addition to those required by the program.

Your advisory committee aids you in formulating and completing an appropriate research project and evaluates the achievement of degree requirements. Your advisory committee approves your coursework and written research proposal and conducts the final examination which consists of a comprehensive oral examination and a thesis defense.

YOU are responsible for coordinating meetings of the advisory committee and obtaining and/or preparing required materials such as appropriate Graduate School forms, transcripts, progress reports and research proposals for the meetings. Always check with your mentor to determine their availability before attempting to use Doodle to schedule meetings or defense.

Selection of Research Problem

You are responsible, in consultation with your major professor, to select an appropriate research problem early in your graduate program. The research problem should be selected **no later than the second semester** of your program. Although your research program usually relates to the overall research program of your major professor, the initiation and conduct of original research based on your ideas will be encouraged when possible. It should be remembered, however, that most funds which support graduate research programs are derived from UT AgResearch and extramural funds that impose certain responsibilities on the major professor and the department.

Research Proposal

You must submit a research project proposal to your advisory committee by the end of the **third semester** of matriculation. For example, if you started Fall semester, your proposal is due by the next summer. Research proposals usually consist of a literature review, statement of objectives, proposed procedures and methods (including experimental designs), proposed statistical analysis techniques, literature cited and budget. It is recommended that proposals be written in a format similar to the "Project Description" section of a federal Competitive Grant Application (e.g. USDA or NIH), and that the proposal not exceed six pages. Your committee can provide more specific recommendations.

Timings for all the above semester deadlines will be adjusted if you are working part-time towards the degree (for example you are employed full- or part-time in a position other than a GTA or GRA). However, all students must meet Graduate School time limits for degree completion.

Admission to Candidacy

Admission to candidacy reflects agreement between the graduate advisory committee and the Graduate School that you have the ability to conduct acceptable graduate work and that normal progress has been made towards a degree. This action usually connotes that all prerequisites to admission have been completed and a program of study has been approved. Application for admission to candidacy may be made after you have completed

at least 9 hours of coursework and have a minimum GPA of 3.0. You must submit an Admission to Candidacy form (https://gradschool.utk.edu/forms-central/admission-to-candidacy-masters-or-specialist-degree/) to the Graduate School **no later than the last day of classes** of the semester preceding the one in which you expect to graduate.

Thesis Registration

You must be registered for ANSC 500 for a **minimum of 3 credit hours the term in which the thesis is accepted** by the Graduate School. A total of 6 hours of ANSC 500 are required. More hours should not be taken, as only 6 hours are allowed on the candidacy form. After receiving the master's degree, you are no longer permitted to register for ANSC 500. Permission to enroll in ANSC 500 must be obtained by emailing Dr. Phillip Myer (pmyer@utk.edu).

Thesis

The Master of Science degree requires you to conduct a research project and to write an approved thesis prior to the final examination. The general rules of the University of Tennessee Graduate School and the specific requirements of the Animal Science Department regarding format must be followed. Graduate School rules regarding margins, footnotes, paper, etc., can be found in the thesis guide (https://gradschool.utk.edu/academics/graduation/theses-and-dissertations/preparing-your-work/thesis-and-dissertation-templates/). You are required to write your thesis in scientific journal format. Typically, this includes 1) a literature review with references, 2) chapters, each constituting a manuscript in a specified journal format (i.e., title, abstract, introduction, materials and methods, results, discussion, acknowledgments, and references), 3) the final chapter containing a general discussion of ALL research and may contain results deemed unpublishable, 4) any appendices, and 5) the vitae.

*The final draft of the thesis must be distributed to all committee members **at least two weeks prior** to the date of the final examination*. Failure to compose research chapters in a journal article format may delay the scheduling of your thesis or dissertation defense. Note the manuscript(s) are not necessarily in final form for submission but should be self-contained as described above.

To schedule your defense, copy(s) of your journal formatted research chapter(s) must be submitted electronically in pdf format to the Chair of the Graduate Committee (Dr. Phillip Myer). On that correspondence be sure to cc your graduate advisor and other graduate advisory committee members. Upon “quick” review of effort to compose a manuscript “ready” document, Graduate Committee Chair will notify Brenda Dykes and Dr. Neal Schrick that you have met this requirement and are approved to schedule your defense and announce to the department. When identifying dates and times, please be mindful that others may be defending on the same day as you. Because committee members may be serving on other graduate student committees that may be targeting the same day as you, be sure to schedule defense in the am, no later than 9 am or in the pm, no later than 1 to 2 pm. This will minimize potential for overlap and allow for maximal participation by any/all available to attend.

Some suggestions for thesis writing:

- Write the literature review early, for example in conjunction with writing your research proposal
- Write materials and methods as soon as research procedures are established
- Similarly, the results section can be written as results are obtained
- Allow at least 3-6 months for writing the research chapters. We recommend these manuscript chapters be the focus of your writing. Write these first, then bundle with other sections to form the thesis draft.
- Expect to submit multiple drafts to your major professor before being allowed to distribute the document to your advisory committee
- Writing always takes longer than you expect, particularly the discussion section

Final Examination (Thesis Defense)

You must pass an oral defense of your thesis, consisting of a public presentation and an oral exam. You will present a departmental seminar on your research immediately before the oral examination. This seminar is open to all faculty, staff and students and it is *your responsibility, upon approval of your major professor, to schedule the seminar at least one week in advance* by contacting the Animal Science graduate program assistant. The content of the thesis oral defense presentation should be representative of the content that is included in the thesis. **Do not include additional or side projects conducted during your MS program**. Because of the importance that every graduate committee member be in attendance and participate in the defense, making sure that all are available should be done much earlier in the process. The presentation typically lasts 45 minutes, followed by questions. Family visitors should be asked to leave the room before question/answer session that follows oral defense. After the research presentation, an oral exam and thesis defense will be administered by your advisory committee - all committee members must participate in real-time, even if electronically. This defense is open to all faculty members with rank of assistant professor or higher. The oral exam may cover all coursework and the thesis research, plus any other topics related to the animal sciences. Suggested edits to the thesis document from committee members should be expected on the day of the exam, either electronically or hard copy. If suggestions are extensive, committee members will request another review of the thesis before signing their approval.

Following a successful defense and completing edits, all committee members must sign the **thesis/dissertation approval form** to indicate that the student passed the defense and that the committee approves the thesis or dissertation. The completed form must be submitted to the Graduate School by the published deadline. A separate *Report of Final Examination (Pass/Fail) form* is not required for students completing a thesis or dissertation. The *Report of Final Examination form* is used only for graduate programs or degree options that do not require a thesis or dissertation. The MENTOR should submit to forms to the Graduate School per form instructions and cc the Student Support & Record Specialist (Brenda Dykes), the graduate director (Dr. Myer). https://gradschool.utk.edu/forms-central/

If you find that you will not make the first deadline for thesis defense and electronic submission of the final thesis document, there is a second deadline date, usually 3 or 4 weeks later. If you can meet that deadline, you will officially graduate the following semester, but you do not have to register in that semester. To take advantage of this, you must submit an application, https://gradschool.utk.edu/forms-central/

Time Limits

Graduation deadlines and required forms are an unforgiving set of rules. The semester before you graduate, go to https://gradschool.utk.edu/academics/graduation/graduation-deadlines/ and follow the instructions and deadlines. Master of Science candidates have **six** calendar years from time of enrollment in the Graduate School to complete the degree. Courses taken more than 6 years ago cannot be used to meet degree requirements.

Concurrent Master's Degree Program

In exceptional cases where an individual is admitted to PhD program having a BS and/or DVM only but no thesis-based MS degree, individual will be required to complete a MS degree in the continuum of PhD program efforts. If departmental stipend is awarded, individual would start at MS pay rate. Individual would work with their graduate advisor to submit a manuscript containing their initial original research efforts to a scientific peer-reviewed journal, normally after 2 years in the program. Submitted manuscript would then be formatted into a thesis for presentation at an oral defense. Upon completion of MS degree requirements (24 graduate credit hours + 6 credit hours of ANSC 500) individual would then be eligible for PhD stipend rate and complete PhD requirements as outlined in departmental graduate student handbook.

Degree Requirements: Doctor of Philosophy

The PhD program requires that you write a dissertation based on your original research, at least 24 hours graduate coursework at the 500 and 600 levels beyond the master's degree, plus 24 hours of ANSC 600. Coursework must include the following:

- Minimum of 8 credit hours in related fields outside animal science (any cross-listed course may be used)
- At least 6 credit hours must be at the 600-level
- 1 credit hour of teaching/Extension experiential learning (e.g., AGNR 512; ANSC 513)
- 3 credit hours of statistics approved by the IGSDSP (or 6 credit hours if the MS program had no statistics coursework)
- 1 credit hour of research ethics if not taken for the MS degree (e.g., ANSC 525)
- 3 credit hours of graduate-level multi-systems physiology coursework if not taken for the MS degree (as approved by your advisory committee, e.g., ANSC 520)
- You are required to pass ANSC 696 each spring term in your first and second year

No graduate student may repeat a course for the purpose of raising a grade already received.

Doctoral Committee

You will have already been assigned, as part of the admission process, a major professor who will provide you with the training necessary to help attain your career goals. Your major professor will direct your research and dissertation program. You and your major professor will select your doctoral advisory committee **which must be comprised of at least 5 faculty members at the rank of assistant professor or above**. The major professor serves as chair. At least 1 member must be outside the Department of Animal Science and 2 members must be non-adjunct Animal Science faculty. Take effort to select individuals that will be actively engaged research planning, conduct, analysis and/or interpretation thereafter. Expect enough effort from majority such that their efforts may warrant co-authorship on resulting publications.

Per Graduate Catalog:

"As a rule, the faculty member's (aka major professor's) graduate unit/department submits the Doctoral Committee form with any necessary attachments to the Graduate School immediately upon formation of the dissertation committee."

Because the advisory committee approves the program of study and dissertation research proposal and conducts the comprehensive written and oral examination and final dissertation defense examination, the student's doctoral committee should be officially appointed **by the end of the first, no later than the second semester** of matriculation (during summer if you entered in the spring). This requires submission of the Doctoral Committee Appointment form by the student's graduate mentor/major professor after obtaining Department Head's approval to the Graduate School (https://gradschool.utk.edu/forms-central/). This form only provides opportunity to add 4

committee members. You must use the “revise PhD committee” form to add 5th member (https://gradschool.utk.edu/forms-central/). There should never be a circumstance where proposal approval, comprehensive exam or other type of examination is administered before Doctoral Committee Form is submitted and approved by the Graduate School Dean.

Committee Meetings

You are responsible for coordinating meetings of the doctoral advisory committee and obtaining and/or preparing required materials such as appropriate UT Graduate School forms, transcripts, progress reports and research proposals for the meetings. Always check with your mentor to determine their availability before attempting to use Doodle to schedule meetings or defense.

Generally, a minimum of four committee meetings are necessary to monitor progress towards the PhD degree.

- You and your major professor select a program of study depending on your area of emphasis and professional goals. This program is amended and approved by your advisory committee **before the end of your 2nd semester**. Since coursework depends on the proposed research topic, a general statement of planned research is needed at this time.
- You are expected to present a written research proposal to your advisory committee **no later than your 4th semester**.
- After most of your coursework has been completed, you must meet with your advisory committee to take the comprehensive exam, and after passing this exam you submit the candidacy form.
- The fourth meeting is your dissertation defense.

Additional meetings may be requested by you, your major professor, or by members of your advisory committee to review progress in coursework and research. Timings for all the above will be adjusted if you are working part-time towards the degree (for example you are employed full- or part-time in a position other than a GTA or GRA). However, all students must meet Graduate School time limits for degree completion.

PhD Research Proposal

You, in consultation with your major professor, are responsible for selecting an appropriate dissertation research problem. Although the research you conduct usually relates to the overall research program of your major professor, the initiation and conduct of research based on your original ideas will be encouraged when possible. It should be remembered, however, that most funds which support graduate research programs are derived from UT AgResearch and extramural funds that impose certain responsibilities on the major professor and the department.

You must submit to your major professor and advisory committee a research project proposal **no later than the 4th semester** of matriculation in the PhD program. The research proposal should consist of a literature review, statement of objectives, proposed procedures and methods (including experimental designs), proposed statistical analysis techniques, expected outcomes, literature cited and budget. It is recommended that your

proposal be written in a format similar to the "Project Description" sections of federal Competitive Grant Applications (e.g., USDA or NIH), and that the proposal not exceed 12 pages. Your committee can provide more specific recommendations. In addition to presentation to your graduate advisory committee, it is also strongly encouraged that you plan to present your research proposal to the departmental faculty.

Doctoral Comprehensive Examination

The comprehensive exam is administered by your graduate advisory committee and consists of both written and oral examinations. Overall, this examination reflects *knowledge that you have been introduced to* – including coursework, literature related to your research area, research problems and techniques. Generally, each member of the committee submits a series of written questions to you. The exact format can vary with each committee member and ranges from take-home, open book exams to closed book, timed exams. Once the written exams are completed and answers are evaluated as satisfactory, your committee administers an oral examination. The oral portion may include follow-up questions from the written exam, but again covers all knowledge you should have acquired. **All** members of your graduate advisory committee must agree that you have completed the exam successfully to pass. Depending upon your performance, additional courses or other activities may be required by the committee. The comprehensive exam generally is scheduled after most of the coursework has been taken and must be completed before you can apply for candidacy to the PhD program.

Per Graduate Catalog:

"The comprehensive examination (or the final part of this examination when parts are given at different times) is normally taken when the doctoral student has completed all or nearly all prescribed courses. Thus, its successful completion indicates that, in the judgment of the faculty, the doctoral student can think analytically and creatively, has a comprehensive knowledge of the field and the specialty, knows how to use academic resources, and is deemed capable of completing the dissertation. The comprehensive examination must be passed prior to Admission to Candidacy."

The comprehensive examination should be administered at or around time when graduate coursework is completed and MUST be administered at least by the semester preceding the dissertation defense (see current Graduate Catalog). Unless extenuating circumstances arise after the comprehensive oral exam is initiated, two outcomes are possible - pass or fail. If you do not pass the comprehensive exam, the committee in consultation with the graduate program director and Animal Science department head has the option to re-administer the exam the following semester or dismiss you from the graduate program. Two failures will result in your dismissal from the program.

Some tips for the comprehensive exam:

- Faculty generally expect some knowledge of agriculture and animal science. This background may possibly be obtained by **learning** from, not just attending, departmental seminars and journal clubs.

- Faculty generally expect you to have some awareness of the research other graduate students within the department are doing, particularly within your specialization.
- Faculty will expect knowledge of the current literature. Pay attention to discussions in journal club, and read relevant articles in journals such as Nature, Science, Journals of Animal/Dairy/Poultry Science, and other key specialized scientific journals. You should have been talking with your advisory committee from day one about what journals and articles they consider to be critically important.
- A common misunderstanding is for students to think of this as the usual exam, where faculty ask questions, you answer, and you are either right or wrong. Instead, you should take the approach of **teaching** the committee about what you know. An important goal of the exam is to see if you can communicate in a scientific manner. The exam should almost be a conversation, almost like colleagues discussing current scientific knowledge.
- It is a good idea to meet with each of your committee members to gain insight into their expectations.

Once you have passed the comprehensive exam, you should fill out the candidacy form (next section), and this is the only record of your passing the exam.

Admission to Candidacy

Admission to candidacy reflects agreement between your graduate advisory committee and the Graduate School that you have demonstrated the ability to do acceptable graduate work and that *normal progress has been made toward a degree*. This action usually connotes that all prerequisites to admission have been completed, a program of study has been approved, the comprehensive exam has been passed, and at least a 3.0 GPA has been maintained in all graduate coursework. You are responsible for filing the Admission to Candidacy form (https://gradschool.utk.edu/forms-central/). On this form list only those courses to be used to satisfy degree requirements, including courses taken at UTK or another institution prior to admission to the doctoral program. Admission to candidacy should be applied for after successful completion of comprehensive exam but must be applied for and approved by the Graduate School **no later** than the last day of class for the semester preceding your expected graduation.

Continuous Dissertation Registration

The PhD degree requires 24 hours of ANSC 600. Normally registration for ANSC 600 does not begin until after admission to candidacy. It is advised that registration for ANSC 600 not exceed the 24-hour requirement since costly fees are assessed per credit hour. If you will not be using faculty services and/or university facilities for a period of time, you may request a leave of absence from dissertation research. The current Graduate School policy notes an approved leave of absence may normally be granted for **up to two years** for documented medical reasons, military service, or other unavoidable circumstances. The request, to be made in advance, will be considered by the Graduate School upon written recommendation of the Graduate Director.

Dissertation

The Department of Animal Science requires that you conduct a research program and that you write a dissertation prior to the final examination. The general rules of the University of Tennessee, Graduate School and the specific requirements of the Animal Science Department pertaining to the format described below must be followed.

Graduate School rules regarding margins, footnotes, paper, etc., must be followed. In addition, you are required to write your dissertation in scientific journal format. Typically, a dissertation so written would consist of 1) a literature review, 2) research chapters, each constituting a manuscript (i.e., title, abstract, introduction, materials and methods, results, discussion, acknowledgments, and references), 3) the final chapter, a general discussion of ALL research and may contain results deemed unpublishable, 4) any appendices, and 5) the vita. *The final draft of the dissertation must be distributed to all committee members **at least two weeks prior** to the date of the final examination.* You are required to electronically submit individual manuscripts from item 2 above in a specified journal format to your graduate advisory committee (with a copy to the Chair of the Graduate Committee) as a condition for scheduling your defense. Note the manuscript(s) are not necessarily in final form for submission but should be self-contained as described above.

Some suggestions for dissertation writing:

- Write the literature review early, for example in conjunction with writing your research proposal. It will need to be updated as new publications appear, of course.
- Write materials and methods as soon as research procedures are established.
- Similarly, the results section can be written as results are obtained. A common strategy is to first produce Tables and Figures covering your results, then write text based on those.
- Allow at least 6-9 months for writing the research chapters. We recommend these manuscript chapters be the focus of your writing. Write these first, then bundle with other sections to form the dissertation draft.
- Expect to submit multiple drafts to your major professor before being allowed to distribute the document to your advisory committee.
- Writing always takes longer than you expect, particularly the discussion section.

Final Examination (Dissertation Defense)

You must pass an oral defense of your dissertation. The ***PhD defense must be scheduled*** at least **one week prior** to the examination.

Relevant for ***scheduling defense in the Animal Science Department***, copy(s) of your journal formatted research chapter(s) *must* be submitted electronically in pdf format to the Chair of the Graduate Committee (Dr. Phillip Myer). On that correspondence be sure to cc your graduate advisor and other graduate advisory committee members. Upon “quick” review of effort to compose a manuscript “ready” document, Graduate Committee Chair will notify Brenda Dykes and Dr. Neal Schrick that you have met this requirement and are

approved to schedule your defense and announce to the department. When identifying dates and times, please be mindful that others may be defending on the same day as you. Because committee members may be serving on other graduate student committees that may be targeting the same day as you, be sure to schedule defense in the am, no later than 9 am or in the pm, no later than 1 to 2 pm. This will minimize potential for overlap and allow for maximal participation by any/all available to attend.

You must present a departmental seminar on your research immediately before the examination. This seminar is open to all faculty, staff, and students and it is your responsibility to *publicize and announce the seminar at least one week in advance* by contacting the Animal Science graduate program assistant and filling out the Graduate Student form. The content of the seminar should be representative of the content that is included in the dissertation. Do not include additional or side projects conducted during your PhD program. The defense will be administered by all members of your doctoral committee after the oral presentation - all committee members must participate in real-time, even if electronically. This defense is open to all faculty members with rank of assistant professor or higher. Suggested edits to the dissertation from committee members can be expected on the day of the exam, either electronically or hard copy. If suggestions are extensive, committee members will request another review of the dissertation before signing the approval form.

Following a successful defense and completing edits, all committee members must sign the **thesis/dissertation approval form** to indicate that the student passed the defense and that the committee approves the thesis or dissertation. The completed form must be submitted to the Graduate School by the published deadline. A separate *Report of Final Examination (Pass/Fail) form* is not required for students completing a thesis or dissertation. The *Report of Final Examination form* is used only for graduate programs or degree options that do not require a thesis or dissertation. The MENTOR should submit to forms to the Graduate School per form instructions and cc the Student Support & Record Specialist (Brenda Dykes), the graduate director (Dr. Myer). https://gradschool.utk.edu/forms-central/

If you find that you will not make the first deadline for dissertation defense and electronic submission of the final dissertation document, there is a second deadline date, usually 3 or 4 weeks later. If you can meet that deadline, you will officially graduate the following semester, but you do not have to register in that semester. To take advantage of this, you must submit an application, https://gradschool.utk.edu/forms-central/.

Time Limits

Graduation deadlines and required forms are an unforgiving set of rules. The semester before you graduate, go to https://gradschool.utk.edu/academics/graduation/graduation-deadlines/ and follow the instructions and deadlines.

Doctoral candidates must complete comprehensive examinations within five years, and all requirements must be completed within eight years from the time of your first enrollment in a doctoral program. The Graduate School sets a time limit of eight years on coursework, so courses taken eight years ago may not be used to satisfy degree requirements.

Graduate Student Evaluation

Graduate education requires continuous evaluation of your progress. This evaluation includes your academic and research progress, and assistantship performance if applicable. Continuation in the program is determined by consideration of all these factors.

Academic Review

The academic schedules and records of all graduate students are reviewed at the beginning and end of each semester, including the summer term.

Academic Probation: Upon completion of six hours of graduate coursework in your current degree program, you will be placed on academic probation when your cumulative GPA falls below 3.0. You will also be placed on academic probation if you earn a NP grade in ANSC 500 or 600. Note that coursework from a previous degree (e.g. MS) is not included in these GPA calculations. You will be allowed to continue graduate study in subsequent semesters if each semester's GPA is 3.0 or greater and you do not receive further NP grades in ANSC 500 or 600. Upon achieving a cumulative GPA of 3.0, you will be returned to good standing. **ANSC 511 and AGNR 512 hours will not be used in probation GPA calculations.** You cannot graduate while on probation, so if on probation you must eventually earn enough A's to raise your GPA above 3.0.

Grades: It may be helpful to think of grades for graduate coursework as follows

- A Superior performance
- B+ Better than satisfactory performance
- B Satisfactory performance
- C+ Less than satisfactory performance
- C Performance well below the standard expected of graduate students
- D Clearly unsatisfactory performance and cannot be used for degree requirements

As a graduate student, **you may not repeat a course for the purpose of raising a grade already received.** You may not do additional work nor repeat an examination to raise a final grade. A change of grade may occur only in cases of arithmetic or clerical error. An instructor may not initiate a change of grade as a result of a reevaluation of the quality of your performance nor as a result of additional work performed by you.

Degree Program Progress

In accordance with Graduate School guidelines, your degree progress will be evaluated yearly by the Animal Science Graduate Committee. Typically, this will be after finals of the 2nd, 4th and 6th Fall or Spring semesters in your program. No evaluation is done after the semester of graduation, so a typical 2-year MS program will have one evaluation, while a 2.5-year MS program will have two evaluations, as will a typical 3 year PhD program.

You will be notified by the Animal Science Graduate Committee when your evaluation is scheduled, and you must turn in the Academic Progress forms (in Appendix III) to the Animal Science Graduate Program Office two weeks before that date. Fill out the forms using the included guidelines. The Degree Milestones form will be filled out by the Graduate Committee during the evaluation (sample included in Appendix II), and you should be prepared to provide dates for each milestone. Other planning tools are included in Appendix II for your personal use.

Evaluation by your major professor will also be solicited by the Graduate Committee and used as part of the evaluation. Similar to the form you fill out, your major professor will be asked to evaluate strengths and weaknesses of your performance, and identify limitations in your program, such as courses or necessary research equipment being unavailable.

The purpose of the evaluation is to assure that you are making appropriate progress and to discover areas that need you and your major professor's attention. The evaluation is also your opportunity to identify factors limiting your progress that are outside your direct control. The Graduate Committee can serve as an advocate within the department to help address such roadblocks.

Evaluation will result in a "Satisfactory" or "Not Satisfactory" rating along with explanatory comments. Comments with "Not Satisfactory" ratings will detail expectations for the next semester that must be met, or termination may occur (see below). The evaluation will be sent to you and your major professor, with copies to the department head and will be included in your academic file. You may appeal a "Not Satisfactory" rating by written communication with any supporting documents to the Graduate Committee. If the appeal is denied, it will be automatically forwarded to the department head for resolution.

Assistantship Performance

If you have the privilege to hold a GTA or GRA position, your performance in the work assigned to you may be evaluated each semester. Performance evaluation will be conducted as with any employee, considering the quantity and quality of work that you have performed.

Termination and Dismissal Procedures

Academic Probation: You will be placed on academic probation if your UT cumulative grade point average (GPA) falls below a 3.0 and at least 6 hours of graduate coursework have been completed. You will also be placed on academic probation if you earn less than a C in any course, or if you are given an NP grade in ANSC 500 or 600, or if you withdraw from a course without pre-approval of your advisory committee. For doctoral students, coursework for the MS degree, whether taken at UT or elsewhere, will not be included in cumulative GPA calculations. You will be allowed to continue graduate study in subsequent semesters if each semester’s GPA is a 3.0 or greater. Upon achieving a cumulative GPA of at least 3.0, you will be removed from probationary status. ANSC 511 and AGNR 512 hours will not be used in probation GPA calculations.

Dismissal from the degree program: Dismissal from graduate program may result if you are on academic probation and earn less than a 3.0 semester grade point average,

or less than a C in any course, or NP in ANSC 500 or 600, or if you withdraw from a course without pre-approval from your advisory committee. Even if not on academic probation, other reasons for dismissal include failure to make adequate progress towards other degree requirements (e.g., research project, thesis/dissertation preparation), academic dishonesty (e.g., plagiarism, falsification of data), or other forms of gross misconduct as defined by Human Resources, Dean of Students' Office, Hilltopics or Graduate Council. Dismissal will be accomplished by written notice to the student with a copy to The Graduate School.

Termination of financial support can occur and is done by the following process. If performance reviews find any of the following:

- A grade of NP in ANSC 500 or 600
- Grades of D or F, or a W without pre-approval of your advisory committee
- Academic probation
- Failure to complete degree requirements within the time frames specified in this Handbook
- Inadequate performance of assigned duties or research activities

this MAY result in termination of financial support. The Animal Science Graduate Committee has the flexibility to consider any additional factors (including source of financial support) in making a final recommendation. This recommendation is sent to the department head and major professor. If in agreement, the department head sends a written notice of termination of financial support to the student, with copies to the major professor and Graduate Director. In most cases 30-day notice is given, such that the student will receive a final monthly paycheck at least 30 days after written notice is sent. However, if performance is very inadequate, termination can be immediate, even within a semester. For example, this can occur if you are essentially absent from all duties, making no research progress or are not available for assistantship duties. It is **strongly** recommended that you meet frequently with your major professor to keep them informed of your activities.

A major professor may initiate this termination of financial support process without involving the Animal Science Graduate Committee by working directly with the Department Head. This will typically occur when the student is being funded by the major professor, as opposed to departmentally funded assistantships.

Resignation from GTA, GRA, or degree program If circumstances lead you to withdraw from any of these commitments, provide a hard copy letter stating your resignation to the department head and the Graduate Director. Note that not registering for any coursework in a Fall or Spring semester leads to automatic termination from the degree program, and will require a readmission decision by the Department, and payment of any associated readmission fees.

Note that if you resign during the semester, as opposed to between semesters, you will be **personally** responsible for tuition costs for that semester, even if you have a tuition waiver. Essentially a tuition waiver is given after completion of the semester, not at the beginning.

Animal Science Graduate Student Association

You are encouraged to participate in our graduate student association. They have fun activities that help build camaraderie among the students and relieve the stresses of graduate student life. As stated elsewhere, the more you put into your years here, the more benefits you will gain, and the association is an example of this.

Office, Desks and Keys

Attempts will be made to provide students a desk when possible and office/desk assignments will be made according to the following priority:

1. Students on assistantship
2. Students not on assistantship, but working on research
3. Others

Assignments will be made to allow for maximum exposure to other graduate students, especially within disciplines. If you do not intend to utilize this desk space fully, you should notify the department head so the space may be assigned to another student.

You may be issued keys to Animal Science facilities deemed necessary by your major professor and approved by the department head. Requests may be submitted through the department head's administrative staff. Only keys obtained by this procedure are authorized to be in your possession. Students who have unauthorized keys in their possession run the risk of dismissal from the program.

Routine Office Supplies

The department will provide the normal supplies needed by GRAs or GTAs in the execution of their assistantship duties. These may include clerical support when the materials are channeled through the major professor or faculty member in charge of the course. Teaching internship activity will also be supported when processed through the faculty member in charge of the course.

The department does not provide supplies for students to use in academic coursework.

Professionalism & Wearing Apparel

As a graduate student in our program, you are expected to maintain a high degree of professionalism both in and outside classroom, office and as you fulfill work or degree related responsibilities. You are expected to wear professional attire (ask your major professor if in doubt) when representing the Department, for example at field days, when in front of a classroom, or at professional meetings. The department will provide appropriate specialized materials such as surgical wear or protective laboratory apparel required in the execution of GRA or GTA duties. The department will not, however, provide apparel for routine activities, e.g., coveralls. Related to office space, please assist

with keeping it an organized and conduct yourself in a manner expected in a professional workspace. Because this space is occupied by others, please be respectful of others by limiting meetings/discussions not necessarily related to work. Please also refrain from posting or sharing non-work-related information that could be deemed offensive by others.

Thesis/Dissertation Materials

The department will provide materials needed in the execution of the research program approved by your graduate advisory committee and department head. The typing of theses or dissertations is your responsibility as are paper and duplication charges.

Materials for Presentation of Research at Professional Meetings

Posters utilized in presenting research data at professional meetings may be provided via the major professor's research program funding, with approval. Likewise, preparation of figures, publication page charges, etc. incurred as a result of publishing thesis/dissertation research will be provided via the major professor's research program, with approval.

Travel Funding

As budgets allow, the Department strives to provide travel support to one scientific or academic meeting annually for our graduate students, with priority given to those students who will be presenting their research or academic achievements. The funding timeline is based on our fiscal year, which runs from July 1 through June 30. Typically, registration, lodging, and travel costs (including Motor Pool charges, personal vehicle reimbursement, or airfare), are provided for the travel. When possible, graduate students of the same gender attending a meeting are requested to share rooms to minimize lodging costs. Meal per diems are not provided by the Department; however, faculty mentors have the option of providing such from grant, contract, and/or gift funds, as the granting or gifting agencies allow.

The Department Head must pre-approve all requests for departmental travel support and has the option of rejecting requests that are not justified, are overly extravagant, or where budget constraints prohibit such. Requests to the Department Head should be submitted or discussed no later than 45 days before anticipated travel and earlier requests are strongly encouraged.

Graduate students requesting funds in support of travel should be prepared to provide the following:

- Justification for the travel, including the relevance of the meeting to the student's program with emphasis on how it enhances research efforts or the student’s portfolio.
- Potential benefits to Department of Animal Science, UT AgResearch, Herbert College, and/or UT Extension
- Evidence of application for funding from additional sources
- A document indicating the Major Professor’s support

- A detailed budget

Students and mentors are expected to seek other financial support to fully fund or cost-share travel and provide for additional travel opportunities to broaden the development of and increase professional networking opportunities for the graduate student.

For all university-related travel, UT personnel, including graduate students, must submit a Travel Authorization request and receive approval from the Department Head prior to the initiation of the travel.

- The travel authorization process is initiated by securing the appropriate form(s) from the Travel Coordinator.
- Graduate students are strongly encouraged to work with their major professors in completing the form, which is then submitted to the Travel Coordinator for entry into travel system for consideration by the Department Head or their designee.
- Authorization forms should be submitted no later than 2 weeks prior to the anticipated travel. Earlier submission is strongly encouraged. Late submissions may be denied.
- International travel must be registered with the Center for Global Engagement, and thus must be coordinated though the Major Professor and Department Head well in advance (minimum of 3 weeks) of the travel.
- Failure to properly complete or submit a Travel Authorization request prior to the travel WILL DISALLOW any subsequent reimbursement for travel expenses and WILL NULLIFY all insurance coverage normally provided to UT employees while on university-related travel.
- Note that if you do not participate in the intended purpose of the travel (e.g., present your paper), reimbursement of travel costs may be withheld.

It is recommended that all University related travel NOT involve your personal vehicle, as liability then becomes your responsibility.

Departmental Vehicles

Animal Science pickup trucks are available to facilitate Departmental activities and were purchased primarily for transport and hauling of large items, research equipment, animals, and research samples. To keep the trucks available for such, their use for general travel of personnel will have the lowest priority. For general travel, Motor Pool vehicles or personal vehicles (submit travel reimbursement) should be considered. Under justifiable circumstances and with the approval of the Department Head, the trucks may be used for general travel of personnel that has direct relevance to our missions and activities.

Requests for departmental vehicles begin with the student and mentor considering the need for the vehicle, and if deemed justified, a request is made through the Department Head's Office Supervisor. A sign out sheet is used to manage vehicle reservation and use, with allocation on a first-come-first-served basis (assuming the use is within the priorities indicated above).

In case of conflicting needs for a departmental vehicle, the Department Head will consider the needs of each program within the context of Departmental priorities and provide a timely decision regarding the allocation of the vehicle. Where possible, following such a resolution, the Department Head may consider using Departmental funds to provide a Motor Pool vehicle or other transportation option for the program that was not able to reserve the truck due to conflicting needs.

Students and faculty should be aware that, as with motor pool vehicles, there is a cost associated with the use of departmental vehicles, including fuel, depreciation, and repairs, which the Department has traditionally covered. However, in cases of extreme or extended use by an individual program or user, the Department Head may confer with the appropriate faculty member to determine if some cost sharing may be appropriate.

The following courtesies should be followed by all users of Departmental trucks

- Treat the vehicle with respect.
- Report any damage, whether you are responsible or not.
- Do not return the truck with less than ½ tank of gas. If near Knoxville when the travel is completed, fill the tank at the Motor Pool.
- Ensure the vehicle, including the bed and cab, are free of trash, manure, feed, animal remains, feathers, hair etc.
- Failure to adhere to the above may result in loss of privileges for use of Departmental vehicles for that program or user.

The following are UT policies regarding operation of university-owned vehicles:

- Drivers of UT vehicles, including departmental vehicles, must be UT employees with a valid driver's license and must abide by TN laws (speed limit, no talking on cell phone or texting etc. while driving). Passengers must be affiliated with the University.
- Use of seat belts is required at all times.
- Use of tobacco products in vehicles is prohibited, as are alcohol and drugs, of course.
- Fines or penalties resulting from traffic violations are the responsibility of the driver and may result in suspension of driving privileges.

Computers

Through financial support, the department provides laptop and desktop computers for graduate students; however, the mentor is responsible for obtaining the computer for the student. Computer use must be in accordance with University regulations which prohibit use of unauthorized software, tampering with computer files/programs which belong to others, etc. The Department provides adequate software, and therefore reserves the right to check for and erase all unauthorized software. Office of Information Technology provides a secure wireless network, lots of supported software, a helpdesk (974-9900), and "life preserver" help http://oit.utk.edu/. You are responsible for knowing acceptable use policies. Downloading of copyrighted or illegal materials can result in substantial legal penalties and fees and can result in dismissal from the program.

Friendly advice – backup computer files frequently! When you finish your degree, a copy of project files must be given to your major professor.

Leaving the University

Once you have turned in the final version of your thesis or dissertation, and satisfied all requirements for graduation, now what?

First, return all data, electronic or hardcopy, to your major professor. Failure to do so is a severe violation of University policy, and possibly state and federal laws. Then return departmental computers to the Dept. Head's Office, with passwords removed.

Two weeks prior to leaving the university, please contact the Departmental Head's Administrative Assistant to begin the process of returning keys, resolving outstanding financial obligations, and filling out required forms. Failure to do so will result in a hold placed on your graduation and future transcript releases.

Appendix I: Academic Courses

This list of courses is not exhaustive, and changes semester by semester depending on scheduling and creation of new courses. If you discover a new course that you find helpful, please inform the Graduate Committee so the course can be added to this list.

Animal Science Courses	Fall	Spring
ANSC 420 Advanced Reproductive Techniques (3)	**Every**	
ANSC 481 Beef Management (3)		**Every**
ANSC 482 Dairy Management (3)	**Every**	
ANSC 483 Swine Management (3)	**Every**	
ANSC 484 Poultry Management (3)	**Every**	
ANSC 500 Thesis (1-15)		
ANSC 511 Special Problems in Animal Science (1-4)		
ANSC 513 Extension-Based Experience (1)	**As-requested**	**As-requested**
ANSC 515 Special Instructor Initiated Topics (1-4)		
ANSC 519 Techniques in Molecular Biology (3)		
ANSC 520 Animal Physiology (4)	**Odd years**	
ANSC 525 Research Ethics for the Life Sciences (1)	**Every**	
ANSC 531 Comparative Nutritional Biochemistry and Metabolism (4)		
ANSC 571 Design and Analysis of Biological Research (3)		**IGSDSP**
ANSC 600 Doctoral Research and Dissertation (3-15)		
ANSC 621 Advanced Topics in Animal Physiology (1-4)		
Multiple sections specific to disciplines	**Varies**	
ANSC 624 Advanced Mammalian Reproduction (3)		
ANSC 625 Mammalian Endocrinology (3)		
ANSC 635 Ruminology (3)		**Odd years**
ANSC 650 Animal Immune Physiology (3)		**Even years**
ANSC 652 Disorders of the Endocrine System (2)	**Every**	
ANSC 696 Seminar on Advanced Topics in Animal Science (1)		**Required 1st and 2nd year**

Other Courses	Fall	Spring
Agriculture and Natural Resources		
AGNR 512 Teaching Internship**. [See details below]**	**1 hr required**	**1 hr required**
Biochemistry and Cellular and Molecular Biology		
401 Biochemistry-Molecular Biology I (4) – Protein		
402 Biochemistry-Molecular Biology II (4) – DNA/RNA		
412 Molecular Biology and Genomics (4)		
511 Adv. Protein Biochemistry and Cell Biology II (3)	**Every**	
512 Advanced Molecular Biology (3)		**Every**
513 Adv. Protein Biochemistry and Cell biology II (3)		
515 Experimental Techniques		
517 Physical Biochemistry (3)	**Every**	
Comparative and Experimental Medicine (Vet Med)		
504 Descriptive and Applied Epidemiology (3)	**Every**	
609 Mechanisms of Disease (3)		
615 GIS and Geographical Epidemiology (3)		**Every**
Ecology and Evolutionary Biology		
450 Comparative Animal Behavior (3)		
459 Comparative Animal Behavior Lab (3)		
English		
462 Writing for Publication (3)		
Entomology and Plant Pathology		
525 Medical and Veterinary Entomology (3)		**Every**
550 Molecular Epidemiology (3)		
675 Scientific Writing and Grantsmanship		
Life Sciences		
LFSC 507 Bioinformatics and Computational Biology	**Every**	
LFSC 520 Genome Science & Technology I	**Every**	
LFSC 521 Genome Science & Technology II		**Every**
Microbiology		
410 Microbial Physiology (3)		**Every**
411 Microbial Genetics (3)	**Every**	
429 Medical Microbiology Lab (2)		**Every**
430 Immunology (3)	**Every**	
540 Genomics and Bioinformatics (3)		**Every**
Nutrition		
511 Adv. Carbohydrate, Lipid, Protein Metabolism (4)	**Every**	
512 Advances in Vitamin and Mineral Metabolism (3)		**Every**
Plant Sciences		
535 Field and Forage Crops (3)	**Every**	
Statistics (all are IGSDSP approved)		
PLSC 561 Statistics for Biological Research (3)	**Every**	
STAT 537, 538 Statistics for Research	**Every**	**Every**
STAT 577 Data Mining	**Every**	
STAT 578 Categorical Data Analysis		**Every**
PSYC 540 Nonparametric Statistics		

Experiential Learning Requirement for Graduate Degrees

A required opportunity is provided so you can obtain a Teaching or Extension based experience. The primary goal is to learn by doing.

AGNR 512: Teaching Experience

One possibility for gaining Teaching experience is through AGNR 512, which gives one credit hour for each semester's participation. MS students are required to participate for at least one semester during their degree program, and PhD students are required to participate for an additional semester during their program. No more than one credit hour will be allowed in the MS program or two credit hours in the PhD program for this participation. Students on 1/2-time graduate teaching assistantships or with the rank of instructor may use their teaching assignments to satisfy this requirement. Alternatives to teaching-based experiences will be created based on your interests. You should consult with your major professor or the Animal Science Graduate Committee for Extension-based experiences (**ANSC 513**). In all cases the primary objective is for you to gain experience with scientific communication, particularly from the viewpoint of gaining skills to teach different audiences.

AGNR 512 is administered by the Herbert College of Agriculture. With your major professor's consent and with assistance of the Graduate and Undergraduate Committees, you select a specific course prior to the semester in which enrollment occurs. Then, permission of the instructor(s) of the course must be obtained. Registration for the AGNR 512 is dependent on contacting Angie Fox (afox@utk.edu) to request enrollment in 1 credit hour while providing course information (e.g. ANSC 420) and instructor name. You are responsible for attending classes for your selected course, observing the instructor during his/her presentations, and preparing and presenting one lecture and/or one laboratory demonstration during the semester. Following your presentation, the instructor should provide you with suggestions in an effort to improve your teaching ability. It should be borne in mind that the objective of this program is not to aid the instructor in the menial tasks of teaching a course, such as excessive grading of papers, but is to give you experience in various phases of the teaching activity. Obviously, to obtain this experience, you must participate in the various activities of the course which may include writing test questions about your presentations and grading the answers to those questions. It may also involve weekly assistance in setting up laboratories but is not designed to replace teaching assistants.

ANSC 513: Extension-Based Experience

The possibility to gain Extension programming experiences through a 1-credit hour course is through ANSC 513. Permission to do so must be obtained by the Graduate Committee. Towards that end, Extension faculty members would need to provide the Graduate Committee, through its chair, an outline of what is to be expected for individuals to earn A-F grade in this 1 graduate credit hour course. Therefore, the Extension faculty member administering the course will develop a customized syllabus tailored to the student’s interests and the faculty member’s needs and experiences for the relevant Extension program. The expectations of the student should be clear, and the students should be aware and agreeable to the terms and conditions of this graded course. More

consistent with lab-based coursework, collective efforts may target ~40 to 60 hours in a given semester. An example syllabus can be obtained from Dr. Phil Myer, Graduate Committee Chair.

Minors Earned by Animal Science Graduate Students

Intercollegiate Graduate Statistics and Data Science Program (IGSDSP)
Offers statistics minors at both the MS (9 hours required) and PhD (15 hours required) levels.

See https://haslam.utk.edu/business-analytics-statistics/statistics/ for details.

Be aware of specific requirements. The first two classes (Level A) must be an approved sequence, for example STAT 537 / STAT 538, or PLSC 561 / ANSC 571. Also at least one of the MS classes, and two for the PhD minor, must be from the Statistics department. The PhD minor requires a written comprehensive exam. A grade of B or higher is required to obtain statistics minor.

To declare an IGSDSP minor, your candidacy form should list the required courses in the Minor section, the IGSDSP form https://haslam.utk.edu/business-analytics-statistics/statistics/ should be filled out and signed, and all should be submitted along with transcripts to the IGSDSP office. Of course, the candidacy form must also be submitted to the Graduate School.

Interdisciplinary Graduate Minor in Computational Science (IGMCS)
Offers minors to students interested in using advanced computational facilities to address modeling or simulation-based research questions. This has not been used by Animal Science graduate students, but a minor program can be created for interested students.

Appendix II: Monitoring and Planning Academic Progress

Suggested Milestones for MS Program

A MS program should be accomplished in approximately 2 years. The following milestones are suggestions that will help keep you on track.

Months 0-4 (1st semester)

- ☐ Identify 1st semester courses with your major professor
- ☐ Select your advisory committee members
- ☐ Hold a meeting with your advisory committee to discuss and approve your planned coursework prior to or at the beginning your 2nd semester
- ☐ Begin developing & writing your research proposal (especially literature review)
- ☐ Begin research training in the lab

Months 5-8 (2nd semester)

- ☐ Research problem selected

Months 9-12 (3rd semester)

- ☐ Submit your research project proposal to your advisory committee by the end of the third semester

By 13-20 months (4th – 5th semesters)

- ☐ Conduct research, analyze and interpret data
- ☐ Schedule at least one meeting with your committee to update them on your progress
- ☐ Submit **Admission to Candidacy Form** (Must be completed prior to the semester you expect to graduate)
- ☐ Submit **Graduation Application form**, due prior to your last semester

By 20 months (6th semester)

- ☐ Focus on writing your thesis – *expect at least 3-6 months writing time*. This is a labor and time-intensive process for you and your major professor. Expect multiple submissions to your major professor with plenty of red marks coming back to you for editing.
- ☐ Course work should be completed

By 23 months

- ☐ Oral presentation of thesis research followed by comprehensive final exam and thesis defense. The FULL thesis should be provided to your committee at least **two** weeks in advance, as well as turned into the graduate school for formatting checks. The oral presentation and defense should be scheduled at least **one** week in advance and announced publicly via the Animal Science Graduate Program Secretary.

Within 2-4 weeks AFTER your defense

- ☐ Return corrections requested by your committee to your committee and/or major professor
- ☐ Turn in FINAL thesis to the graduate school, major professor, and advisory committee. Ask your advisory committee members if they would like a hard-bound copy.
- ☐ A signed **thesis/dissertation approval form** must be submitted to UTK.

Suggested Milestones for PhD Program

A PhD program should be accomplished in approximately 3 years – depending upon prior research experience.

Months 0-4 (1st semester)
- ☐ Identify courses with your major professor that will give knowledge and skills necessary for your career goals
- ☐ Begin developing and writing your research project (especially literature review)
- ☐ Begin research training in the lab
- ☐ Advisory committee members selected

Months 5-8 (2nd semester)
- ☐ Course of study presented and approved by advisory committee
- ☐ **Submit Doctoral Committee Appointment form**

Months 9-12 (3rd semester)
- ☐ Continue research training, proposal writing, and coursework

Months 13-16 (4th semester)
- ☐ Research proposal presented to advisory committee

Months 17-24 (5th – 6th semesters)
- ☐ Continue conducting research, analyzing & interpreting data
- ☐ Course work should be completed

Months 25-28 (7th semester)
- ☐ Take comprehensive exam
- ☐ After successful completion of comprehensive exam – file **Admission to Candidacy form**. MUST be completed by the end of the semester prior to the one you expect to graduate.

Months 29-32 (8th semester)
- ☐ Complete remaining research experiments. Analyze and interpret data.
- ☐ Begin/continue writing your dissertation – *expect at least 3 months writing time*. This is a labor and time-intensive process for you and your major professor. Expect multiple submissions to your major professor, 3 revisions are perfectly normal.
- ☐ **Submit the Graduation Application form** (due prior to your last semester)

Months 33-36 (9th semester)
- ☐ Oral presentation of thesis research followed by comprehensive final exam and dissertation defense. The FULL dissertation must be turned into the graduate school for formatting checks about **four** weeks in advance and must be provided to your committee at least **two** weeks in advance. The oral presentation and defense must be scheduled at least **one** week in advance, and announced publicly via the Animal Science graduate program secretary.

Within 2-4 weeks AFTER your defense

- ☐ Return corrections requested by your committee to your committee and/or major professor
- ☐ Turn in FINAL thesis to the graduate school, major professor, and advisory committee. Ask your advisory committee members if they would like a hard-bound copy.
- ☐ A signed **thesis/dissertation approval form** must be submitted to UTK.

Progress in Reaching MS Degree Departmental Milestones

Student Name: _____

Entered Program	Date: _____
Identified Courses Needed	No ☐ Yes ☐ Date: _____
Formed MS Advisory Committee	No ☐ Yes ☐ Date: _____
Held MS Advisory Committee Meeting	No ☐ Yes ☐ Date: _____
Course of Study Approved by Committee	No ☐ Yes ☐ Date: _____
Submitted Proposal to Chair	No ☐ Yes ☐ Date: _____
Proposal Approved by Committee	No ☐ Yes ☐ Date: _____
Submitted Admission to Candidacy Form	No ☐ Yes ☐ Date: _____
Completed MS Data Collection	No ☐ Yes ☐ Date: _____
Completed Course Work	No ☐ Yes ☐ Date: _____
Submitted MS Thesis to Chair	No ☐ Yes ☐ Date: _____
Submitted Thesis to Committee	No ☐ Yes ☐ Date: _____
Defended Thesis	No ☐ Yes ☐ Date: _____
Submitted Manuscript(s) to Committee	No ☐ Yes ☐ Date: _____

Received/Will Receive MS Degree Date: _____

Progress in Reaching PhD Degree Departmental Milestones

Student Name: _____

Entered Program	Date: _____
Identified Courses Needed	No ☐ Yes ☐ Date: _____
Formed PhD Advisory Committee	No ☐ Yes ☐ Date: _____
Submitted PhD Advisory Form to Grad.School	No ☐ Yes ☐ Date: _____
Held PhD Advisory Committee Meeting	No ☐ Yes ☐ Date: _____
Course of Study Approved by Committee	No ☐ Yes ☐ Date: _____
Submitted PhD Research Proposal to Chair	No ☐ Yes ☐ Date: _____
Proposal Approved by Committee	No ☐ Yes ☐ Date: _____
Completed Course Work	No ☐ Yes ☐ Date: _____
Comprehensive Written Exam(s)	Passed ☐ Failed ☐ Date: _____
Comprehensive Oral Exam	Passed ☐ Failed ☐ Date: _____
Completed PhD Data Collection	No ☐ Yes ☐ Date: _____
Submitted Dissertation to Chair	No ☐ Yes ☐ Date: _____
Submitted Dissertation to Committee	No ☐ Yes ☐ Date: _____
Defended Dissertation	No ☐ Yes ☐ Date: _____
Submitted Manuscript(s) to Committee	No ☐ Yes ☐ Date: _____
Received PhD Degree	Date: _____

Appendix III: Student Evaluation Forms

The forms and tables in this appendix are to be filled out by you for the annual evaluation review by the Graduate Committee.

Degree Progress Report
(To be Completed by the Student)

Name: _____ **Date:** _____

Curriculum Vitae: (Attach a Copy to this Report) Typically this would include

- Contact information (name, address, phone, email);
- Education background (degrees, majors, colleges, or universities), and employment (positions held, name of institution or company)
- Honor or professional society memberships; honors or academic awards
- Research publications (referred journal articles and conference proceedings, non-referred articles or conference proceedings, abstracts, popular press articles, web-based contributions, reports granting agencies or supporters, other publications)
- Presentations (seminars, conferences, professional society meeting, etc.)
- Teaching (courses and responsibilities)
- Service (clubs, associations, department, college, university, community)
- Professional Development (workshops, short courses, conferences, professional meetings)

Course Work Planned: You should have already met with your advisory committee and have a list of planned coursework by semester. Attach or paste a copy of this.

Research Planned for Coming Year: What research experiences have you planned for the next year? Include specifics as literature reviews, protocols designs, proposal writing, data collection and analysis and any new skills you plan to obtain.

Anticipated Progress: Indicate what you plan to accomplish in the next 12 months. How do these planned activities relate to your program of study?

Suggestions for Improvement: Identify specific needs or items that would help improve your program, covering all aspects of your program, including faculty, coursework, and departmental and university resources.

Course Checklist for MS Program (30 Credit Hours)

24 Credit Hours – Course Work; and 6 Credit Hours - ANSC 500

All courses must be chosen in consultation with your major professor and advisory committee.
**** Required** courses*

Course /Name	Cr	Term	Year	Is 500+ level	ANSC 500
*ANSC 696	1	Spring	1	1	
*ANSC 696	1	Spring	2	1	
*IGSDSP approved statistics course (min 3 hr)	3			3	
*Research Ethics (min 1 hr)	1			1	
*Physiology (min 3 hr)	3			3	
*AGNR 512 or equivalent (min 1 hr)	1			1	
*ANSC 500 Thesis Research (min 6 hr)	- -			- -	3
*LAST SEMESTER ANSC 500	- -			- -	3
Total credit hr (min = 24)	≥ 24			≥ 14	≥ 6

Course Checklist for PhD Program (48 Credit Hours)

24 Credit Hours coursework beyond the MS degree; and 24 Credit Hours of ANSC 600

All courses must be chosen in consultation with your major professor and advisory committee.
**** Required** courses. # **Required** if not already taken in an MS program.*
*** Any cross-listed class can also count here.*

Course /Name	500+ level Cr	Term	Yr	ANSC 600	Is Graded ?	Non-ANSC **	Is 600 level?
*ANSC 696	1	Spring	1		1		1
*ANSC 696	1	Spring	2		1		1
*IGSDSP approved statistics course (min 3 hr)	3				3		
#IGSDSP approved statistics course (min 3 hr)	3						
#Research Ethics/ (min 1 hr)	1						
#Physiology (min 3 hr)	3						
*AGNR 512 or equivalent/ (min 1 hr)	1						
6 credit hours of courses at 600 level							
ANSC 600 Dissertation Research (min 24 hr)	- -			21	- -	- -	- -
* ANSC 600 LAST SEMESTER	- -			3	- -	- -	- -
Minimum Total Hours	≥ 24			≥ 24	≥ 12	≥ 8	≥ 6

Appendix IV: Definitions, Contacts and Links

HCA: Herbert College of Agriculture

IGSDSP: Intercollegiate Graduate Statistics and Data Science Program

UT: University of Tennessee

UTK: University of Tennessee, Knoxville

Credit Hours: The number of contact hours per week in a given course in a given term

Major Professor/Mentor: The primary advising professor and chair of your advisory committee

Term: The UT-established period for the duration of a course (fall, spring, and summer terms)

Contacts and Links

Animal Science Graduate Program Director
Dr. Phillip Myer
Phone: (865) 974-3184 Email: pmyer@utk.edu

Animal Science Graduate Program Office
Brenda Dykes, Graduate Program Support and Records Specialist
2506 River Drive, 149 Brehm Animal Science Bldg., Knoxville, TN 37996
Phone: (865) 974-6389 Fax: (865) 974-7297 Email: bdykes3@tennessee.edu

The Graduate School
111 Student Services Bldg. Knoxville, TN 37996
Phone: (865) 974-2475 Email: gradschool@utk.edu http://gradschool.utk.edu

Office of Graduate Admissions
201 Student Services Building, Knoxville, TN 37996-0230
Phone: (865) 974-3251 Email: graduateadmissions@utk.edu
http://graduateadmissions.utk.edu/

Registrar's Office
Oversees enrollment services, grades, graduation, transcripts, and student records.
209 Student Services Building, Knoxville, TN 37996-0200, USA.
Phone: (865) 974-1111. http://registrar.tennessee.edu/

Center for Global Engagement
Oversees international students, enforces immigration rules, issues I-20's.
1620 Melrose Avenue, Knoxville TN 37996-3531
Phone: (865) 974-3177 http://international.utk.edu/

Pertinent Graduate Student Web Pages

- Center for Global Engagement https://cge.utk.edu/
- Counseling Center http://counselingcenter.utk.edu/
- Graduate Catalog https://catalog.utk.edu/index.php
- Graduate Student Forms http://gradschool.utk.edu/forms-central/
- Graduation Deadline Dates http://gradschool.utk.edu/graduation/graduation-deadlines/
- Graduate Student Senate https://gss.utk.edu/
- Graduate Admissions http://graduateadmissions.utk.edu/
- International House https://ihouse.utk.edu/
- Judicial Affairs https://studentconduct.utk.edu/
- Research Integrity & Assurance https://research.utk.edu/research-integrity/
- ITA (formerly SPEAK) Testing Program http://gradschool.utk.edu/graduate-student-life/ita-testing-program/
- Thesis/Dissertation Website https://gradschool.utk.edu/academics/graduation/theses-and-dissertations/
- VolAware http://tntoday.utk.edu/tag/volaware/
- Library Website, Information for graduate students http://libguides.utk.edu/graduate
- OIT http://oit.utk.edu/

This handbook supplements, but does not replace,
the University of Tennessee Graduate Catalog,
Graduate School policies, and applicable University policies.

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UNIVERSITY OF TENNESSEE

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