Graduate Studies
in
Animal Sciences

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January 31, 2025: Committee membership, faculty list, and weblinks updated

Contents

OVERVIEW

Introduction

Welcome

It is a pleasure to welcome you to the Animal Sciences Graduate Program at North Dakota State University. Graduate students play a vital role in our Research, Teaching, and Extension activities and we truly are excited to welcome you to our team. This handbook will help guide you through your degree program along with support from your advisor, other faculty, staff, and other graduate students. This handbook will also provide information about our graduate program for prospective students. More information can be found in the Graduate Catalog and Graduate Student Handbook from the Graduate School.

Kendall Swanson
Professor
Graduate Coordinator

Graduate Program

The Department of Animal Sciences offers graduate education leading to MS and PhD degrees. Specialized training is provided in (but not limited to) the following areas of emphasis: Animal Health, Behavior and Welfare, Breeding and Molecular Genetics, Meats and Muscle Biology, Nutrition and Nutritional Physiology, and Reproductive Physiology. Student research and academic programs are tailored to individual needs and interests of the student. Prospective MS or PhD candidates are ***strongly encouraged*** to contact Animal Sciences faculty members as potential advisors before applying through the Graduate School.

Departmental Graduate Committee Members

Kendall Swanson, PhD, Professor, Graduate Coordinator; Hultz 166; 701-231-6502, kendall.swanson@ndsu.edu
Christopher Byrd, PhD, Assistant Professor; Hultz 195, 701-231-5363, christopher.byrd@ndsu.edu
Joel Caton, PhD, Professor; Contact: Morrill 207b, 701-231-7653, joel.caton@ndsu.edu
Kathlyn Hauxwell Mikkelsen, MS, Ruminant Nutrition Research Specialist; Contact: Hultz 183, kathlyn.hauxwell@ndsu.edu
Stephani Skulthorp-Skrei, Administrative Assistant; Contact: Hultz 100d, 701-231-7712. stephanie.skrei@ndsu.edu
Imtiaz Ali, PhD Student; Contact: Hultz 113, imtiaz.ali@ndsu.edu

Other office administrative staff also are resources for information related to the logistics of your program and how the department operates.

Departmental Mission

We commit to creating and sharing knowledge about animals used for the production of food and fiber, recreation, and companionship. We will emphasize animal welfare and care, as well as their social, environmental, and economic impact on our communities. We commit to promoting diversity of thought, providing unique learning opportunities, working as a team, and training the next generation workforce.

Facilities

Animal and Animal-Related Facilities

Animal Nutrition and Physiology Center (ANPC): The ANPC, dedicated in 2001, is a state-of-the-art facility used for conducting animal physiology research primarily in the areas of growth, nutrition, reproduction, behavior, and animal welfare. The ANPC is able to house a variety of animals, from mice to cattle. Animal research at the facility takes place in individual pens or stanchions, flexible penning arrangements, farrowing crates, and group pens. Six environmentally-controlled rooms are available in a small animal suite for research with rabbits, rodents, and poultry. Additionally, the facility contains a surgical unit with two surgery rooms and a post-operative room, classroom, benchtop laboratory, and a feed center to mix specialized feed rations.

Beef Cattle Research Complex (BCRC): The BCRC was dedicated in 2011. It is a state-of-the-art facility designed to meet the needs of beef cattle research at NDSU well into the future. The BCRC allows NDSU to accomplish a vast array of research and includes an automated feed intake measurement system allowing for measuring feed intake and feeding behavior. The cattle complex consists of a feeding area, animal handling area, calving pens, office, and laboratory space, and feed storage and mixing area.

Beef Research and Teaching Center (Beef Unit): The Beef Unit serves as the winter headquarters for the cowherd while the Ekre Grassland Preserve southwest of Kindred, ND, provides summer grazing for the herd. Angus, Simmental, and crossbred herds are maintained to demonstrate genetic diversity for classroom and outreach use. The NDSU beef herd was established during the 1890s and now consists of approximately 200 breeding-age females. The herd supports the mission of research, outreach, and teaching by providing quality cattle for those specific purposes.

Dairy Cattle Research and Teaching Center (Dairy Unit): The Dairy Unit is a 120-cow Grade A dairy. The herd consists of registered and grade Holsteins with selective mating from popular sires. The herd is DHIA (Dairy Herd Improvement Association) tested and has recorded monthly production for over 30 years. Milk is marketed to Cass Clay Creamery in Fargo. The NDSU dairy herd began with grade Holsteins in 1893, three years after North Dakota Agricultural College (now NDSU) was established. Red Polled, Milking Shorthorns, and Jerseys were added later. Our first purebred Holstein was purchased in 1907, purebred Guernsey in 1915, and purebred Brown Swiss in 1957. Although it is a working dairy, the main goals of the facility are

to conduct applied and basic research, to teach career-minded students current dairy technologies, and to demonstrate new concepts to the region's dairy producers.

Equine Center: The Equine Center was built in 2003. It contains indoor horse stalls, an indoor riding arena, and outdoor turnout space. This facility is highly utilized by a wide variety of students, and the Equine Science academic program conducts much of its teaching and outreach there. In addition, the equestrian and rodeo teams utilize the facility heavily for their practices and competitions.

Meat Laboratory (Meat Lab): The meat lab is currently located in Shepperd Arena and is a federally-inspected facility with a slaughter room, cutting rooms, chilling room, freezers, and classroom. Shepperd Arena (and Meat Laboratory) were dedicated in 1952. The Meat Lab will relocate to the newly constructed Peltier Complex in 2024. The Peltier Complex will support a wide range of research involving food science, meat science, muscle biology, food safety, nutrition, consumer sensory traits, and the development of new agricultural products. Designed to meet federal and state food processing and food handling regulations, the center's labs will expand research grant opportunities and partnerships with federal and state agencies.

Northern Crops Institute (NCI) Feed Production Center (Feed Mill): NCI's Feed Production Center serves as an educational and technical assistance center specializing in feed mill management and feed manufacturing technology for international and domestic clientele. The Feed Production Center received a complete equipment renovation in 2014. Facilities include a twenty-seat classroom, quality assurance lab, lobby, and general reception room. Daily production capacity is 60 tons of meal feed, or 24 tons of pelleted feed. Equipment includes a Repete computer control system, Bliss hammermill, Rosskamp two pair roller mill, and a California Pellet Mill with custom steam conditioner.

Sheep Research and Teaching Center (Sheep Unit): The original sheep barn was constructed in the late 1940s. The main barn was updated in 2008. The NDSU sheep flock has approximately 250 ewes and 50 replacement ewe lambs composed of registered Hampshire, Columbia, Royal White, and commercial Dorset composite hair sheep consisting of Katahdin, Royal White and White Dorper breeds. The sheep unit utilizes both spring and fall lambing programs. In addition to this facility, there are also sheep housed at the ANPC that are primarily used for research in reproductive physiology.

Shepperd Arena: Shepperd Arena has a central livestock arena used for 4-H, FFA, judging contests, shows, classes, and the annual Little International Livestock Show. The main entrance of Shepperd Arena houses the picture gallery of the Saddle and Sirloin Club's Hall of Fame. The gallery is dedicated to the leaders of agriculture in North Dakota, selected each year by the Saddle and Sirloin Club. The building also contains a classroom and the Meats Laboratory. Shepperd Arena was dedicated in 1952 to honor the memory of Dr. John Shepperd who served as Chairman of the Department of Animal Husbandry, Dean of the College of Agriculture, and President of the North Dakota Agricultural College (now NDSU).

Swine Research and Teaching Center (Swine Unit): The Swine Unit is a farrow-to-finish operation that is capable of housing 80 sows, 8 breeding boars, and approximately 450 grow-

finish pigs at any time. The facility includes individual rooms dedicated to all phases of commercial production including gestation, farrowing, nursery, and grow-finish. In 2019, the gestation room was converted to a group gestation housing system and all individual stalls within the farrowing room were replaced and updated. Additional grow-finish space is available for applied research purposes and a large classroom area is commonly utilized for several undergraduate ANSC courses.

Research Extension Centers (REC): The REC across the state are also an important component of our research and Extension programs. Livestock research activities occur at the Carrington, Central Grasslands (Streeter), Dickinson, and Hettinger REC. Sheep research is conducted at the Hettinger REC and cattle research is conducted at all of the REC listed above. Faculty and graduate students often collaborate on research project with Research Scientists housed at the REC. The REC are also important for providing Extension programming in different geographical locations across the state.

Laboratories

Advanced Imaging and Microscopy Laboratory (AIM Lab): The AIM lab serves departmental researchers, as well as others, across several disciplines at NDSU. The AIM Lab houses state-of-the-art microscopy, imaging, image processing, and histology equipment. Equipment includes: Zeiss inverted, upright, and microdissection microscopes, Motic digital slide scanners, Omni digital microscope, image process and analysis workstations with Imaris and Media Cybernetics Image-Pro software, Leica automated tissue process, ACD HybEZ RNA hybridization system, and other standard laboratory equipment.

Genetics Laboratory (Genetics Lab): The Genetics Lab is well-equipped for molecular biology analyses. Equipment includes: Applied Biosystems QuantStudio real-time PCR system, Agilent Seahorse analyzer for measuring mitochondria coupling status (in mitochondria, cells, and tissue), Invitrogen Qubit fluorometer for measurement of nucleic acid quality and quantity, Baker SG-400 biosafety cabinet, VWR CO_2 Incubator, and other standard laboratory equipment.

Meats and Muscle Biology Laboratory (Meats and Muscle Biology Lab): The Meats and Muscle Biology Lab is well equipped for measurement of meat quality and muscle function. Equipment includes: Warner Bratzler shear force machine, clam-shell type cooking grills, thermocouples, Minolta Chroma Meter, HeNe laser for measuring sarcomere length, protein electrophoresis (including 2-dimensional) and immunoblotting equipment, Alpha Innotech gel and blot imaging equipment, and other standard laboratory equipment.

Nutrition Laboratory (Nutrition Lab): The Nutrition Lab is well equipped for standard nutritional and metabolite analyses. Equipment includes: Agilent Technologies GC system, Waters UPLC system, Biotek Synergy HT micro titer plate reader, Perkin Elmer atomic absorption spectrophotometer, 2 Vertis Genesis freeze driers, and an array of other standard laboratory equipment. The Nutrition Lab also houses a Siemens Ultramat 23 gas analyzer for measurement of oxygen, carbon dioxide, and methane collected from cattle headboxes housed at ANPC, an Oroboros respirometer for measuring tissue and cellular oxygen consumption and mitochondrial

function, an Ankom in vitro ruminal gas production system, and protein electrophoresis and immunoblotting equipment.

Reproductive Physiology Laboratory (Repro Lab): The Repro Lab is well equipped for analyses to characterize reproductive function at the whole animal, tissue, cellular, and molecular level in male and female animals. Equipment includes: Siemens Immulite automated immunoassay for analysis of hormones and metabolites, IMV computer-assisted sperm analysis system, Agilent Bioanalyzer and Invitrogen Qubit 4 Flurometers for measurement of nucleic acid quality and quantity, Qiagen TissueLyser, laminar flow cabinets, nucleic acid thermocyclers, and other standard laboratory equipment. The Repro lab also works closely with the AIM lab on tissue histology, microscopy, and image analysis.

Graduate Faculty

Marc L. Bauer, Ph.D.
University of Kentucky, 1996
Research Interests: Nutritional physiology with emphasis on nutrient metabolism and utilization in ruminants

Eric P. Berg, Ph.D.
Purdue University, 1996
Research Interests: Working with swine as a biomedical model for humans to study the impact of food and food combinations on obesity-related metabolic disorders

Erika Berg, Ph.D.
University of Missouri, 2006
Research Interests: The impact of therapeutic horsemanship on human and equine participants. Maternal and environmental influence on equine neonatal physiology

Chris Byrd, Ph.D.
Purdue University, 2018
Research Interests: Applied ethology, stress physiology, animal welfare science, swine production

Kasey Maddock Carlin, Ph.D.
Iowa State University, 2005
Research Interests: Meat science with emphasis on physiological and biochemical changes in muscle postmortem on meat quality

Joel S. Caton, Ph.D.
New Mexico State University, 1987
Research Interests: Ruminant nutrition with emphasis on nutrition and reproduction interactions, forage utilization, digestive physiology, and selenium metabolism

Carl Dahlen, Ph.D.
University of Minnesota, 2009

Research Interests: Beef cattle production

Lauren Hanna, Ph.D.
Texas A & M University, 2013
Research Interests: Animal genetics, genomics

Travis Hoffman, Ph.D.
Colorado State University, 2015
Research Interests: Sheep production, lamb quality, sheep and goat value, direct meat marketing

Miranda Meehan, Ph.D.
North Dakota State University, 2012
Research Interests: Riparian ecology and management, livestock and wildlife interactions, impacts of energy development on livestock production

Lawrence P. Reynolds, Ph.D.
Iowa State University, 1983
Research Interests: Maternal and placental physiology during pregnancy in livestock including cellular and molecular aspects

Taw Scaff, Ph.D.
Purdue University, 2024
Research Interests: Swine nutrition, reproduction, and management

Guillermo Scaglia, Ph.D.
Texas A&M University, 2002
Research Interests: Ruminant nutrition, plant-animal interface, management of grazing ecosystems, precision livestock farming, sustainability of livestock production systems

Kendall Swanson, Ph.D.
University of Kentucky, 2000
Research Interests: Ruminant nutrition, energy and nitrogen metabolism, pancreatic function, digestion, and alternative feed ingredients for finishing cattle and over-wintering cows

In addition to the above listed faculty, there are numerous adjunct and affiliated faculty members (criteria for and listing of current Affiliate Faculty members) who participate in the graduate program by collaborating on research projects and serving on graduate committees.

APPLICATION AND ADMISSION

Application Process

Contact Potential Advisor

Prospective students are ***strongly encouraged*** to contact potential advisors (listed above) in the department before formal application to the Graduate School so that the student can determine if

the faculty member is currently accepting new students and to determine if the faculty member(s) research program is an appropriate fit for both the student and faculty member(s). Official approval of admission does not occur until approval through the Graduate School and agreement of a faculty member(s) to accept the student as an advisee in their research program.

Application Through Graduate School

Applications are submitted to the Graduate School through the Application Website. Requirements for admission to the graduate school for domestic and international students are also listed on this website. Our department does not require students to have taken the GRE exam. Information on requirements for International Applicants including English Proficiency are also provided through the Graduate School. Once the Graduate School has received a complete application, it is forwarded to the department for review. Each graduate program makes its own recommendation, but the final admission decision is the responsibility of the Dean of the College of Graduate and Interdisciplinary Studies.

Financial Support

Assistantships

Graduate research assistantships are available on a competitive basis. Graduate assistants are typically full-time graduate students who participate in teaching, research, Extension, and/or other departmental activities in exchange for financial support at North Dakota State University. Graduate assistantships are typically considered ½ time in the Department of Animal Sciences, which equates to approximately 20 hours of work per week. Weekly duties are coordinated in consultation with the student's graduate advisor. Most research assistantships in the Department of Animal Sciences are supported from grant funds obtained by individual faculty members. Student tuition waivers (coordinated through the College of Agriculture, Food Science, and Natural Resources) are also currently granted for students receiving an assistantship. Students are still required to pay student fees. Students are referred to the Graduate Assistantship Policies in the Graduate Catalog for further information. The department has a limited number of full- and half-time fellowships to support graduate students with priority to incoming students from North Dakota. The faculty member for which the student is, or will be, working with is responsible for submitting fellowship applications to the departmental Graduate Coordinator for review by the departmental graduate committee when calls for applications are made.

LEARNING OUTCOMES

Assessment of Outcomes of Students' Learning in the Graduate Program

Master of Science in Animal Sciences

1. Students can communicate effectively in a variety of contexts and formats with emphasis on issues related to animal sciences
2. Students understand the present state of knowledge at specific areas of animal sciences
3. Students demonstrate competence in statistical analysis as applied to the animal sciences;

4. Students can comprehend concepts and methods of inquiry in animal science and related fields, and their applications for society in order to serve livestock and food industry.

Ph.D. in Animal Sciences

1. Same first four as for M.S. in Animal Sciences;
2. Students can present and defend research in a specific area of animal sciences to their colleagues and peers

Methods of assessment

	Expected student learning outcome	Method to be used to asses each outcome	Timeline
a	Students can communicate effectively in a variety of contexts and formats with emphasis on issues related to animal sciences	1. Thesis evaluation and defense 2. Presentations at seminars, scientific meetings and other platforms 3. Written abstracts and papers published	Every semester, and at the end of graduate program
b	Students understand the present state of knowledge at specific areas of animal sciences	1. Thesis evaluation and defense 2. Papers published and written abstracts 3. Presentations at seminars, scientific meetings and other platforms	Every semester, and at the end of graduate program
c	Students demonstrate competence in statistical analysis as applied to the animal sciences	1. Thesis evaluation and defense 2. Papers published, written abstracts and presentations 3. Data analysis	Every semester, and at the end of graduate program
d	Students can comprehend concepts and methods of inquiry in animal science and related fields, and their applications for society in order to serve livestock and food industry	1.Thesis evaluation 2. Presentations at seminars, scientific meetings and other platforms 3. Written abstracts and papers published	Every semester, and at the end of graduate program
e	Students can present and defend research in a specific area of animal sciences to their colleagues and peers	1.Preparation of scientific papers for submission 2. Publication of paper(s) 3. Thesis defense 4. Presentations at seminars, scientific meetings and other platforms	Every semester, and at the end of Ph.D. program

ORIENTATION

A Graduate School Student Orientation is offered through the Graduate School. A series of informal Animal Sciences orientation sessions also will be coordinated by the Graduate Coordinator. All students with their home department (With majors in Animal Sciences, other departments (such as Natural Resources Management) or an Interdisciplinary (Program such as Molecular and Cellular Biology) are encouraged to attend these sessions. Students are also encouraged to talk with the Graduate Coordinator, the Graduate Secretary, and others in the department if any questions arise.

ROLE OF GRADUATE STUDENT

Attending graduate school is very different from an undergraduate experience. Graduate school success is largely self-directed with guidance from the advisor, faculty, staff, and other graduate

students. The graduate student is expected to: 1) learn and observe the policies, procedures and deadlines of the Graduate School, the institution, and your graduate program (this document). Lack of awareness or understanding of a policy or deadline is not a valid reason for an exception to the policy or deadline. 2) Initiate forms and other documents and ensure they are received by posted deadlines and policy requirements. If you have questions or need assistance, please contact the Graduate Coordinator or the Academic Support Specialist in the Graduate School. 3) Maintain satisfactory academic standing and progress towards your degree. All graduate students must maintain a minimum cumulative 3.00 GPA. and 4) Read emails sent to your campus email address. Email is an official mode of communication at NDSU. The Graduate School uses your campus email address to send correspondence regarding your academic standing, degree status, or other information related to your graduate career.

There are also other excellent learning opportunities that are part of the graduate student experience. Our department has a long history of collaboration with researchers in different discipline areas, which allows for opportunities to gain experiences outside of the students' focus area. There are opportunities to conduct and present research, choose areas of research specific to interests, participate in department and college committees, and participate in other career development opportunities. You will also find the traditional educational, cultural, and athletic offerings of a university campus at NDSU as well as in the greater Fargo-Moorhead-West Fargo-Dilworth greater community.

ROLE OF ADVISOR

The major advisor will assist the student in all aspects of their program. This includes selection of a graduate advisory committee and formulation of a Plan of Study (list of courses to be taken) early in the student's program to best prepare the student for professional opportunities in the future. The major advisor will work closely with the graduate student in designing and conducting research project(s), sample and data analysis, and scientific writing. The major advisor will also work closely with the graduate student on developing and writing the thesis or dissertation for their M.S. or Ph.D. programs, respectively.

ROLE OF ADVISORY COMMITTEE

The major advisor will assist the candidate in the selection of a graduate advisory committee who will provide input to the student throughout the duration of their program. The advisory committee will help the student develop a Plan of Study to align with the student's desired professional goals, provide input and expertise related to the student's research program, provide support in the growth of the student as a professional, and oversee and assess the student's preliminary (Ph.D.) and/or final examination (Ph.D. and M.S.). In consultation with their major advisor, the appointment of a graduate student's advisory committee is made simultaneously with submission of the Plan of Study. It is strongly encouraged that each Graduate Student meet with their Advisory Committee by the end of their 1st semester, before the Preliminary Exam (for Ph.D. students), and before the Thesis or Dissertation Defense, or at least 1 time per year. It is also strongly encouraged that students write a proposal of their research project and/or prepare an outline of their thesis or dissertation to present to their advisory committee so that feedback can be provided to the graduate student.

Ph.D. Advisory Committee

The advisory committee should be formed before the end of the second term of the student's enrollment. Members should be identified before the Plan of Study is formulated so all committee members have a chance to contribute to the Plan of Study.

The advisory committee will have at least four members. The members consist of:

1. The major advisor, who must be a full or affiliate member of the graduate faculty Level 1 (criteria for and listing of current Affiliate Faculty members), will be the committee chair. The major adviser-student relationship must be a mutually acceptable one.
2. A second member, who must be a full or affiliate member of the graduate faculty, may serve as co-adviser on the advisory committee. The co-advisor designation implies equally shared responsibilities in guiding the student through to degree completion.
3. A third member who may be either a faculty member from outside the advisor's home department, affiliate member of the graduate faculty, or a qualified off-campus expert in the field.
4. The Graduate School Representative (GSR), chosen by the student in consultation with the major advisor ensures Graduate School policies are followed, expectations for the student's performance are reasonable, interactions with the advisory committee are conducted on a professional basis and the process and assessment of the student's performance is documented. Graduate Faculty are listed in the Graduate Handbook.

M.S. Advisory Committee

The advisory committee should be formed before the end of the second term of the student's enrollment. Members should be identified before the Plan of Study is formulated so all committee members have a chance to contribute to the Plan of Study.

The advisory committee will have at least three members. The members consist of:

1. The major advisor, who must be a full or affiliate member of the graduate faculty Level 1 or Level 2 (criteria for and listing of current Affiliate Faculty members), will be the committee chair.
2. A second member, who must be a full or affiliate member of the graduate faculty, may serve as co-adviser on the advisory committee. The co-advisor designation implies equally shared responsibilities in guiding the student through to degree completion.
3. A third member who may be either a full member of the Graduate Faculty from outside the advisor's home department or a qualified off-campus expert in the field.

ROLE OF GRADUATE SCHOOL

The Graduate School is the processing center for all documents necessary for completion of the graduate degree, from admission to graduation. Graduate School staff work with students to provide policy interpretation, assistance with completing forms, auditing of completion

requirements, and disquisition review. The Academic Support Team member assigned to the College of Agriculture, Food Systems, and Natural Resources is available to assist with questions on graduate school requirements. In addition, the Graduate School offers opportunities for professional development, support services, and funding.

DEGREE REQUIREMENTS

Students are also referred to the Policies section of the Graduate School Catalog and the Pathway to Degree Completion websites for further explanation.

Ph.D. Requirements

Typically, students enrolled in the Ph.D. program will have successfully completed a M.S. degree in Animal Sciences or related field from NDSU or another reputable University. If enrolling in the Ph.D. program directly from a B.S. program, please refer to the Graduate School Catalog.

The minimum requirements for the Ph.D. degree are:

- Minimum of 90 graduate credits total
    - Thirty credits from a previously earned M.S. degree may be approved to fulfill 30 of the 90 doctoral program credits required. The previous M.S. degree must be in the same or a meaningfully related discipline.
    - Up to 15 transfer credits from another doctoral program in the same or a meaningfully related discipline from an accredited doctoral institution may be allowed in individual cases.
    - Minimum of 45 credits total completed at NDSU
- 15 credits must be 700-800 level didactic courses
    - Didactic courses are those courses approved for graduate credit numbered 601-689, 691; 700-789,791; 800-889, 891. Courses numbered 690, 692-699, 790, 792-799, 890, 892-899 are considered special or experimental courses and are not to be included as didactic courses on a Plan of Study.
    - 600 number courses are stacked undergraduate/graduate course, and 700 and 800 number courses are M.S. and Ph.D. level courses. Courses approved at the 600, 700 and 800 level may be taken for graduate credit and used to satisfy course requirements on the student's graduate Plan of Study.
- Departmental required courses
    - ANSC 790 (Graduate Seminar): 2 credits
    - ANSC 793 or 892 (Graduate Teaching Experience): 3 credits typically over 3 semesters of 1 credit each; required for students on assistantship)
- Suggested courses
    - Dependent on academic background and interests
    - Could include courses in ANSC, BIOC, STAT, BIOL, ENGL, etc.

Plan of Study

The Plan of Study is an agreement between the student, the academic program, and the Graduate School that specifies all courses required to earn the graduate degree. This includes: any qualifying transfer credits (see Transfer Credit Policy for more information), up to 10 credits taken as a non-degree NDSU graduate student toward the degree, and any previously earned master's degree if being used toward the total 90 credits.

The Doctoral Plan of Study is submitted by the student through DocuSign document and must be approved by the student, the advisory committee, the graduate program coordinator, and the Dean of the Graduate School and must be filed with the Graduate School by the end of the student's second semester of study and at least one month prior to scheduling the comprehensive/preliminary examination. Course deletions or substitutions may be made with the Change to Plan of Study form through DocuSign. The student, adviser, graduate program coordinator, and the Graduate School must approve changes.

Research

The major advisor and the student will work together to decide on a dissertation topic that is of interest to the advisor and student, is suitable to the abilities of the candidate, provides new and significant scientific information, and lends itself to an orderly set of results such that conclusions can be drawn. Projects are typically funded through government or commodity granting agencies or through private industry and this also may play a role in what current research is being conducted in the advisor's laboratory. The dissertation problem shall be sufficiently limited in scope such that it can be completed in a reasonable amount of time. This time frame is approximately three years for a Ph.D. degree. Exceptions to this time frame can occur if the student is employed as a research technician or in another capacity while pursuing their graduate degree.

Students whose research will require approval by the Institutional Review Board (for research with human subjects; IRB), the Institutional Animal Care and Use Committee (for research with animals; IACUC), the Biosafety Committee (for research with recombinant DNA), the Radiation Safety Committee, or the Toxic Substance Committee, will be required to receive approval from these committees before beginning the research. If such approval has not been requested and approved, the student will not receive a degree. For more information about these committees, please see the website of Research Integrity, Security, and Compliance.

Dissertation

The dissertation must show originality and demonstrate the student's capacity for independent research. It must embody results of research that constitute a definitive contribution to knowledge. The inclusion of a final summary and conclusions chapter is ***strongly encouraged***.

When the dissertation is submitted to the Graduate School, the disquisition must meet certain requirements in formatting and construction. These requirements are intended to maintain a consistent standard of quality among all published NDSU disquisitions and to make sure that your disquisition reflects well upon your work as a student. Students are encouraged to become familiar with the guidelines for formatting the dissertation or thesis early in their program and

before beginning the writing process. Students can find more information on Dissertation Formatting Guidelines through the Graduate School. Students are also encouraged to use the templates located at this same website and to contact the Dissertation and Thesis Coordinator with any further questions. Students needing assistance with writing are encouraged to seek assistance through the Graduate Center for Writers.

Teaching

A graduate student receiving an assistantship must fulfill teaching assignments as a requirement of their degree. Specific teaching assignments will be based on the needs of the course instructor, the abilities and interests of the graduate student, and the approval of their major advisor. Graduate students are encouraged to contact teaching faculty in an area of interest to the student prior to the beginning of the semester if they desire an assignment to a specific course. Teaching assistant assignments will be made by the consent of the course instructor. The course instructor is encouraged to provide the graduate student an outline of responsibilities and expectations at the beginning of the semester. Following completion of the teaching assignment, an appropriate grade in ANSC 893 (Graduate Teaching Experience) will be provided by the course instructor. A maximum of three credits of ANSC 893 will be accepted for the PhD degree.

Preliminary Exam

Doctoral students have to complete a Preliminary Examination. This examination will transition the doctoral student to doctoral candidate. The doctoral student should complete most or all coursework prior to examination. The graduate program and Advisory Committee determine whether a doctoral student has accomplished enough to begin the examination processes. At least one academic semester must elapse between the comprehensive/preliminary examination and the final examination.

The doctoral student must submit the Notification of Scheduled Examination through DocuSign at least 7 calendar days prior to the selected examination date. A successful submission requires all signatures before it is approved. The notification activates an audit of coursework and grades to verify all requirements have been met and the courses match the approved and on-file Plan of Study. Graduate students should review their Plan of Study to increase the likelihood that the audit should happen without incident or possibly only minor adjustments (correcting course number or title). The required signatures in DocuSign include: Graduate Student, Advisor, Graduate Coordinator.

Members of the Advisory Committee are required to attend the preliminary examination (in person or via Zoom or other video conferencing system), unless there are extenuating circumstances. If a committee member is not able to attend the examination, the committee and student will decide on the most appropriate course of action. It is the student's responsibility to notify the Graduate School if their examination does not take place as scheduled and to complete a new Notification of Scheduled Examination. The oral exam should not exceed 3 hours in length. If necessary, under extenuating circumstances, the committee can recess and reconvene at a later date. A negative vote by more than one member of the student's committee will signify failure of the preliminary examination. After a successful examination, the graduate student has

14 calendar days starting on the examination date to provide the Report of Preliminary Examination. Failure to submit a Report of Preliminary Examination is grounds for invalidating the examination. Required signatures in DocuSign include: Graduate Student, Advisor and all remaining Committee members (up to five more, only two more required).

Final Exam/Dissertation Defense

The final examination will be taken after the candidate has completed the preliminary exam, course work, and a draft of the dissertation. This oral examination will be concerned primarily with the dissertation, but it may also cover material from course work, especially those courses fundamental to the dissertation. Once a date is finalized between the doctoral candidate and the advisory committee, a Notification of Scheduled Examination form must be filed with the Graduate School at least two weeks prior to the date of the examination. The dissertation in a near final form must be given to the committee members at least 14 days prior to the final examination. If this 14-day stipulation cannot be met, the student's committee holds the right to cancel the defense. It is the student's responsibility to notify the Graduate School if their examination does not take place as scheduled and to complete a new Notification of Scheduled Examination.

Members of the Advisory Committee are required to attend the final examination (in person or via Zoom or other video conferencing system). It is the student's responsibility to notify the Graduate School if their examination does not take place as scheduled and to complete a new Notification of Scheduled Examination.

The dissertation defense exam is not only to defend the dissertation but is also to determine the student's ability to synthesize independent thought and demonstrate an understanding of the dissertation's subject within the background scholarship and primary sources of the subject, and integrate this understanding within the broader discipline. The oral exam should not exceed 3 hours in length. If necessary, the committee can reconvene the following day or as early as possible to complete the exam. It is the student's responsibility to initiate the Report of Final Examination within 14 calendar days following the defense and requires electronic signatures of all members of the advisory committee (and indicating pass or fail). If the completed form is not submitted within 14 calendar days following the examination, the examination is considered void and must be rescheduled.

M.S. Requirements

Typically, students in the M.S. program in Animal Sciences are in the thesis-based program (Plan A). Refer to the Graduate School Catalog Policy for further information on the Master's Paper/Comprehensive Study program (Plan B).

The minimum requirements for the M.S. degree are:

- Minimum 30 credits total
- 16 of the 30 must be didactic credits
    - Didactic courses are those courses approved for graduate credit numbered 601-689, 691; 700-789,791; 800-889, 891. Courses numbered 690, 692-699, 790, 792-

799, 890, 892-899 are considered special or experimental courses and are not to be included as didactic courses on a Plan of Study.
    - 600 number courses are stacked undergraduate/graduate course, and 700 and 800 number courses are MS and PhD level courses. Courses approved at the 600, 700 and 800 level may be taken for graduate credit and used to satisfy course requirements on the student's graduate Plan of Study.
- 6-10 credits of ANSC 798 (Master's Thesis)
- Departmental required courses
    - ANSC 790 (Graduate Seminar): 2 credits
    - ANSC 793 (Graduate Teaching Experience): 2 credits typically over 2 semesters of 1 credit each; required for students on assistantship)
- Suggested courses
    - 1 or more ANSC graduate courses
    - 6 credits of statistical courses in STAT, PLSC, or ANSC
    - 3-6 credits of biochemistry
    - 1 writing course in ANSC, ENGL, ENT, or from another class subject/department
    - Students are also encouraged to take courses from other disciplines depending on their research program and interests

Plan of Study

The Plan of Study is an agreement between the student, the academic program, and the Graduate School that specifies all courses required to earn the graduate degree. This includes any qualifying transfer credits (see Transfer Credit Policy for more information) and up to 10 credits taken as a non-degree NDSU graduate student toward the degree.

The Master's Plan of Study is submitted by the student through DocuSign and must be approved by the student, the advisory committee members, the graduate program coordinator, and the Graduate School and must be filed with the Graduate School by the end of the student's second semester of study and at least one month prior to scheduling the comprehensive/preliminary examination. Course deletions or substitutions may be made with the Change to Plan of Study form. The student, adviser, graduate program coordinator, and the Dean of the Graduate School must approve changes.

Research

The major advisor and the student will decide on a thesis problem that is suitable to the abilities of the candidate, provides new and significant scientific information, and lends itself to an orderly set of results such that conclusions can be drawn. Projects are typically funded through government or commodity granting agencies or through private industry. The thesis problem shall be sufficiently limited in scope such that it can be completed in a reasonable amount of time. This time frame is approximately two years for an M.S. degree. Exceptions to this time frame can occur if the student is employed as a research technician or in another capacity while pursuing their graduate degree.

Students whose research will require approval by the Institutional Review Board (for research with human subjects; IRB), the Institutional Animal Care and Use Committee (for research with animals; IACUC), the Biosafety Committee (for research with recombinant DNA), the Radiation Safety Committee, or the Toxic Substance Committee, will be required to receive approval from these committees before beginning their research. If such approval has not been requested and approved, the student will not receive a degree. For more information about these committees, please see the website of Research Integrity, Security, and Compliance.

Thesis Preparation

The thesis typically includes a problem statement, a review of existing literature relevant to that problem, and the creation and presentation of new knowledge in providing a solution to the problem. The inclusion of a final summary and conclusions chapter is ***strongly encouraged***.

When the thesis is submitted to the Graduate School, the disquisition must meet certain requirements in formatting and construction. These requirements are intended to maintain a consistent standard of quality among all published NDSU disquisitions and to make sure that your disquisition reflects well upon your work as a student. Students are encouraged to become familiar with the guidelines for formatting the dissertation or thesis early in their program and before beginning the writing process. Students can find more information on Thesis Formatting Guidelines through the Graduate School. Students are also encouraged to use the templates located at this same website and to contact the Dissertation and Thesis Coordinator with any further questions. Students needing assistance with writing are encouraged to seek assistance through the Graduate Center for Writers.

Teaching

A graduate student receiving an assistantship must fulfill teaching assignments as a requirement of their degree. Specific teaching assignments will be based on the needs of the course instructor, the abilities and interests of the graduate student, and the approval of their major advisor. Graduate students are encouraged to discuss possible courses with their advisor ant then contact specific teaching faculty prior to the beginning of the semester if they desire an assignment to a specific course. Teaching assistant assignments will be made by the consent of the course instructor and the major advisor of the graduate student. The course instructor is encouraged to provide the graduate student an outline of responsibilities and expectations at the beginning of the semester. Following completion of the teaching assignment, an appropriate grade in ANSC 793 (Graduate Teaching Experience) will be provided by the course instructor. In addition, the course instructor is encouraged to perform peer review of the student's teaching skills. A maximum of three credits of ANSC 793 will be accepted for the M.S. degree.

Final Exam/Thesis Defense

Once a date is finalized between the master's candidate and the advisory committee, a Notification of Scheduled Examination form must be filed with the Graduate School at least two weeks prior to the date of the examination. The master's thesis must be distributed to the committee members for review at least 14 days prior to the examination. If this 14-day

stipulation cannot be met, the student's committee holds the right to cancel the Final Examination. It is the student's responsibility to notify the Graduate School if their examination does not take place as scheduled and to complete a new Notification of Scheduled Examination.

Members of the Advisory Committee are required to attend the final examination (in person or via Zoom or other video conferencing system). It is the student's responsibility to notify the Graduate School if their examination does not take place as scheduled and to complete a new Notification of Scheduled Examination.

The student must pass a final examination as part of earning the master's degree. The oral exam should not exceed 2 hours in length. If necessary, under extenuating circumstances, the committee can recess and reconvene at a later date. A negative vote by two or more members of the student's committee will signify failure of the final examination. It is the student's responsibility to initiate the appropriate examination report, ensure all committee members sign it, and submit it to the Graduate School within 14 calendar days following the examination. If the form is not submitted within 14 calendar days, the examination is considered void and must be rescheduled.

ACADEMIC STANDARDS

The scholastic requirements below apply to each student enrolled in the Graduate School.

1. A student must have a cumulative grade point average (CGPA) of at least 3.0 to be in good academic standing and to receive a graduate degree.
2. All courses taken by a graduate student for which grades are given (not satisfactory/unsatisfactory) will be used in calculating the semester and CGPA.
3. Grades of A, B, C or S may be used to fulfill graduation requirements.
4. Earning more than two grades of C, D, F or U may be grounds for dismissal upon recommendation by the Graduate Coordinator.

Any student in good standing whose CGPA drops to less than 3.0 at any time of attendance is placed on academic warning. Any student admitted on conditional status is placed on academic warning. A student on academic warning cannot register for the following semester until the grades for the current semester post. An academic warning does not appear on the official academic transcript. Students are notified of their academic warning status via official NDSU email. These students remain eligible for graduate assistantships. If a student on academic warning fails to achieve a CGPA of at least 3.0 in the subsequent semester of attendance, they will be placed on academic probation.

A student on academic probation is not eligible for a graduate assistantship or tuition waiver. An academic probation does not appear on the student's official academic transcript. Students are notified of their academic probation status via official NDSU email. To continue the pursuit of a graduate degree program, a student on academic probation must develop a remediation plan in collaboration with the advisor and submit the Academic Probation Remediation Plan form. This plan must include: 1) the specific course(s) you plan to take, 2) the grade you plan to earn in order to return to a CGPA of at least 3.0 within one additional semester (fall or spring) for full-time students and two semesters for part-time students (i.e. students taking 5 credits or fewer), 3)

explanation of the measures being taken to ensure you will receive the grades you've indicated, and 4) signatures of the student, adviser and department chair/graduate program coordinator. The remediation form should be submitted for Graduate School approval before the first day of class the following semester. If the form is not received by the deadline, or if the goals outlined in the plan are not met in the subsequent semester(s), the student will be dismissed from the Graduate School. Dismissal results in the loss of active graduate student status with the Graduate School and participation in all graduate programs and course work. A dismissal is documented on the student's official academic transcript. Students are notified of their dismissal via certified mail and official NDSU email.

Graduate students may be dismissed from the Graduate School as a result of: 1) failure to meet our scholastic standards, 2) academic or professional misconduct, 3) insufficient progress toward a degree, 4) failure to meet professional expectations or standards, 5) failure to submit an acceptable remediation plan, and/or 6) failure to meet the goals outlined in the approved remediation plan. Dismissal is confirmed following the completion of any Appeal Process. Students dismissed from the Graduate School may reapply for admission after at least one calendar year from the date of their dismissal.

YEARLY UPDATE/EVALUATION

Once a year an annual evaluation of graduate student progress must be done. Good practice is to do this coinciding with an advisory committee meeting. It is the responsibility of the Advisor and Student to initiate the review. A standardized fillable form will be provided. The review will include the graduate student's self-evaluation, that includes progress from the previous year, goals for the upcoming year, any professional development activities from the previous year and planned for the upcoming year, and evaluations from the student's Advisory Committee. The student's self-evaluations should be submitted by the same date as when faculty updates are due (currently in January). The goal of the evaluation is to provide guidance and support for students as they move through their degree program. The Advisor will provide written feedback to the student. Each student will discuss his/her overall evaluation with his/her primary faculty advisor. The written feedback also will be forwarded to the departmental Graduate Committee and Department Head for review and, if appropriate, the departmental Graduate Committee and/or Department Head will provide feedback to the student and advisor regarding the student's performance and their graduate program to assure that the review process is consistent and fair for all graduate students in the department. Continuation in the program is contingent upon successful annual evaluations.

TIMELINES AND TIME LIMITATIONS

For timelines and important dates please refer to the Pathway to Degree Completion which is updated by the Graduate School with current deadlines, etc.

All time limits apply to transferred credits as well as NDSU credits. Master's degree coursework that is more than 7 years old at the time of the final examination cannot be used to satisfy degree requirements. Doctoral degree coursework that is more than 10 calendar years old at the time of the final examination cannot be used to satisfy degree requirements. A graduate student has one

year, starting on the date of the final examination, to complete the Graduate School format review process and all other degree requirements. If the disquisition does not receive final approval or if a graduate student fails to fulfill any other degree requirements within the stated time limit of the degree program, the student must repeat the defense of the disquisition. A graduate student who has not registered for longer than a continuous two-year period must reapply for admission (and pay associated admission fees) and is subject to the degree requirements as defined at the time of readmission not as defined during the previous period of graduate study. Questions about the requirements to complete a graduate program should be directed to the Academic Support Specialist in the Graduate School for clarification.

FORMS FOR GRADUATE STUDENTS

The necessary Electronic DocuSign Forms (such as Plan of Study, Request for Preliminary and Final examination, and other special request forms) required by the Graduate School are available through the Graduate School.

GRADUATE SCHOOL LEAVE OF ABSCENCE

Students may file a Request for Leave of Absence from their graduate program for up to two years. Forms must be submitted for Graduate School approval by the end of the fourth week of classes and can only be submitted if the student is not enrolled or has withdrawn without record (see Dates and Deadlines for details).

Filing a Request for Leave of Absence ensures that you will not need to register for semesters in which leave was approved. To re-enroll (within the two-year limit), submit the Request for Reactivation. Any approved leave of absence does not amend the 7- or 10-year coursework completion deadline.

Students who do not maintain continuous enrollment and fail to file for a leave of absence with the Graduate School must submit the Request for Reactivation form and enroll in at least one credit per missed semester (fall and spring) up to four credits.

GRIEVANCE PROCEDURES

Students are referred to Grievance and Graduate Student Appeals section of the Graduate Policies within the Graduate Catalog for further information.

The Graduate College at North Dakota State University encourages resolution of problems at the level most closely related to the origin of the specific disputes. Students may seek advice regarding their situation from a neutral party, such as the University Ombudsperson. Though this may be done at any point, it might be most helpful early in the process.

In order to resolve an issue, the following steps should be taken: 1) the student is to first discuss the problem(s) with the person(s) directly involved, 2) if the student is not satisfied after discussing the problem with the person(s) directly involved or if discussion of the problem(s)

seems inappropriate because of the nature of the student's complaint, the student should seek advice from the administrator of the program; and 3) depending on the nature of the problem(s), the program administrator or student's supervisory committee chair may deal with the situation directly, advise the student to discuss the problem(s) with the appropriate academic dean and/or the Dean of the Graduate College, or advise the student of the appropriate grievance procedure to pursue as the procedure varies depending on the specific nature of the problem.

Areas of possible graduate student appeal include equal opportunity, dismissal from an academic program or the Graduate College, sanctions for academic dishonesty, and degree-acquisition processes that are unique to graduate education. The appropriate procedures/offices for these types of appeals are outlined below. The burden of proof by a preponderance of the evidence is on the graduate student making the appeal.

North Dakota State University's general and specific commitment to being an equal opportunity institution is expressed elsewhere in this bulletin. In short, NDSU prohibits discrimination and harassment on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, status as a U.S. veteran, or participation in lawful activity off the employer's premises during nonworking hours which is not in direct conflict with the essential business-related interests of the employer. Title IX specifically prohibits discrimination based on sex in education programs or activities, including, but not limited to, gender-based discrimination, pregnancy discrimination, sexual harassment, or sexual assault. NDSU also prohibits retaliation based on protected activity, including, but not limited to, reporting alleged discrimination, or providing information during a discrimination investigation. Inquiries concerning compliance with NDSU Equal Opportunity policy may be directed to the Vice Provost and Title IX Coordinator (201 Old Main, 701-231-7708, ndsu.eoaa@ndsu.edu) or to the Office for Civil Rights, U.S. Department of Education, 10220 N. Executive Hills Blvd., 8th Floor, 07-6010, Kansas City, MO 64153-1367.

The University Senate Grade Appeals Board has the authority to hear charges of inequitable or biased academic evaluations and to provide redress for any improper evaluations it may find to have taken place. This process is for course grades assigned by the instructors of the courses, including grades for independent study, thesis, and dissertation credits. Policy 337 has the procedural details. Salient points repeated here are that the student must initiate a request for a change of grade with the instructor within 15 instructional days of the first day of the semester immediately following the semester in which the grade was awarded. During an appeal, the burden of proof is on the student.

Procedures dealing with issues of academic dishonesty in meeting course requirements, such as cheating, plagiarism, or other academic improprieties brought by instructors against students enrolled in their course(s) or other NDSU course(s) or persons not enrolled at NDSU but viewed by the instructor as involved in the academic dishonesty are detailed in both the "Rights & Responsibilities of Community: A Code of Student Behavior" and Section 335 of the NDSU Policy Manual. A substantial range of penalties to the student(s) is available to the instructor(s) and academic dean(s) of the college(s) involved, i.e., the college offering the course(s) and the college of which the student(s) is (are) a member. One option available to the deans is to

recommend to the Dean of the Graduate College that the student be suspended or expelled from the university. A student may choose to appeal the assignment of a grade in a course in which academic misconduct has occurred to the Grade Appeals Board. The decision to impose any **additional penalty or disciplinary sanction** for prohibited academic conduct against a graduate student in meeting the requirements of either an undergraduate or graduate course may be appealed by the graduate student following the procedures outlined below.

All other appeals are addressed through the Graduate College appeal process. The burden of proof lies with the graduate student. These appeals may address dismissal from a graduate program or the Graduate College, sanctions beyond the course grade for academic misconduct or dishonesty, and degree-acquisition processes that are unique to graduate education. The processes intrinsic to graduate education include specification of degree requirements, preliminary and qualifying examinations, disquisition writing and approval, and possible dismissal from the program.

Appeals of processes intrinsic to graduate students are complicated in that there may be different levels of individuals and committees involved depending on the nature of the specific grievance. An additional complication is that for some complaints, levels prior to the Graduate Dean are advisory in nature and cannot supersede a decision of the Graduate Dean. The steps outlined below will vary in number depending on the nature of the grievance as no relevant level may be skipped. The first step begins with the person/committee most closely related to the grievance. Additional steps are added with each level of reporting above the initial level. The table below indicates which individuals/committees should be included for specific issues. If there is an issue that a student wishes to appeal that is not included in the table and is not covered by another policy and appeal process, the student should consult with the Graduate School regarding the steps to take. This consultation should be documented in writing and the resolution signed by the Graduate Dean.

Topic of Grievance	Levels of Appeal	Decisions Prior to Graduate Dean are Only Advisory
Preliminary/comprehensive exam or final defense	Supervisory Committee, Graduate Program Committee, Dept Head/Chair, Academic Dean, Graduate Appeals Committee	No
Disquisition writing and approval	Supervisory Committee, Graduate Program Committee, Dept Head/Chair, Academic Dean, Graduate Appeals Committee	No
Degree requirements	Supervisory Committee, Graduate Program Committee, Dept Head/Chair, Academic Dean, Graduate Appeals Committee	No for program specific requirements, Yes for University requirements from Graduate Bulletin
Dismissal	Supervisory Committee, Graduate Program Committee, Dept Head/Chair, Academic Dean, Graduate Appeals Committee	Yes
Additional Penalties for Academic Misconduct Beyond Course Grade (Not including Suspension/Expulsion)	Supervisory Committee, Graduate Program Committee, Dept Head/Chair, Academic Dean, Graduate Appeals Committee	No
Research in which the student is involved	Principal Investigator, Dept Head/Chair, Academic Dean, Graduate Appeals Committee	No

Note. For the Supervisory Committee level, appeals should be submitted to the chair of the student's supervisory committee (i.e., the student's advisor). For the Graduate Program level, the appeal should be submitted to the Graduate Program Coordinator. If the program does not have a coordinator, the head or chair of the department should receive the appeal. For the Graduate Appeals Committee, the appeal should be submitted to the Graduate Dean. In each case the person receiving the appeal has the responsibility to consult with the other members of the committee or program regarding the appeal.

Steps for Appeals Process: 1) Initiating an Appeal: Within 30 calendar days of the date of the aggrieved action, the graduate student requesting consideration of a grievance must complete the Graduate Student Appeals form and provide a written memorandum stating the nature of the grievance, parties involved and requested remedy. The student should include relevant supplementary material that will support their grievance. The student then submits the appeal form and supplementary material to the first level indicated on the table above. Once submitted, the only materials that can be added to the appeal are documents that are requested by any level of reviewers. 2) Initial Response to Appeal: Within 10 business days, the respondent to the appeal (in consultation with the relevant committee if applicable) shall record their decision to support or not support the appeal on the appeals form and attach a written memorandum explaining the basis for the decision. If the respondent at this level supports the appeal and has the ability to reverse the decision being appealed, they will implement that decision and the appeals process will be concluded. If the respondent does not have the ability to reverse the decision, the response will be considered advisory to the level that does have this ability. 3+) If the student is unsatisfied with the decision at the previous level, the student may move their appeal forward to the next level within 10 business days of the respondent's response by submitting all materials accumulated to date regarding the appeal, including the Graduate Student Appeals Form, the student's memorandum, and the respondent(s)' memo(s). At each step, the respondent will, within 10 business days, record their decision to support or not support the appeal on the appeals form and attach a written memorandum explaining the basis for the decision. If the respondent at this level supports the student's appeal and has the ability to reverse the decision being appealed, they will implement that decision and the appeals process will be concluded. If the respondent does not have the ability to reverse the decision, the response will be considered advisory to the level that does have this ability.

If the student is not satisfied with the outcome at prior levels, the student may bring the appeal to the Graduate Student Appeals committee by submitting the appeals form and all documentation generated in the prior steps to the Graduate Dean within 10 business days of the most recent date on the documentation. The dean, in turn, informs the committee of the appeal and provides them with all documentation. The graduate student appeals committee has five members and is constituted by the Graduate Dean each academic year to handle all appeals for that year. Four of the members must be graduate faculty who are members of the Graduate Council. A graduate student member of the committee will be selected from a pool of graduate students that includes the student members of the Graduate Council and four students nominated by the Graduate Student Council. Two additional graduate faculty members of the Graduate Council and one graduate student from the pool must be designated as alternates when the committee is formed. Any member of the appeals committee who had a role in a previous level of the appeals process must recuse themselves from the committee for that appeal. They must be replaced by an alternate member for that appeal. The graduate student and the party or parties against whom the complaint has been brought each have the right to challenge, with cause, to the Dean of the

Graduate College one member of the graduate student appeals committee. If a challenge is deemed to have merit, that member is replaced by an alternate for that appeal. The five committee members elect the chair of the committee from its membership. The burden of proof shall be with the appealing graduate student. The appealing graduate student has the right to 1) be given due notice by the Dean of the Graduate College in sufficient detail that the accusation is clear and the circumstances of the accusation are detailed enough for meaningful response by the accused and 2) be heard by an impartial body. Each contending party may, if it wishes, be accompanied by one counsel, but any counseling is restricted to 1) what to ask, 2) when not to respond to a question, and 3) how to answer a question. Counsel may not intrude on the hearing. The appeals committee is not bound by rules of legal evidence or procedure and may develop procedures that its members consider to be fair and equitable to the particular circumstance(s). The chair of the committee will preside over the hearing. The hearing will include an opening statement by both the student and the party or parties against whom the complaint has been brought, questioning by the appeals committee, and brief closing statements by the student and the party or parties against whom the complaint has been brought. Committee members make decisions on available information; non-response to questions is available information, i.e., a negative inference can be drawn from the lack of a response. The hearing will be closed unless the student signs a release waiving their rights to a closed hearing. The hearing, but not the appeals committee's deliberations, will be audio recorded. The decisions and recommendations of the appeals committee shall be by majority vote. Depending on the type of grievance (see table), the committee's decision is either final or is advisory to the Dean of the Graduate College. In either case, the Dean is responsible for taking appropriate action to implement the decision. Any further appeal shall be directed to the Provost of the University.

GRADUATE SCHOOL AND OTHER RESOURCES

Center for Writers

The Center for Writers provides free writing support to all NDSU students, faculty, and staff. The center offers one-on-one sessions, writing courses, workshops, grant-writing guidance, services for distance students, and a wealth of resources for writers and writing instructors. The Disquisition Processor, who is part of the Center for Writers, is responsible for reviewing and publishing graduate student papers, theses, and dissertations, to ensure that the format and layout conform to NDSU's guidelines and that the final, published disquisitions reflect well on each student and NDSU's graduate programs.

Graduate Professional Skills Academy

The Graduate Professional Skills (GPS) Academy is a professional development and career skills program designed by the Graduate School to help prepare you for your career after graduation. Along with coordinating events, GPS Academy provides software to track your participation and achievements with a graphic organizer that helps you focus on the skills you need in your chosen field.

College Teaching Certificate

The College Teaching Certificate (CTC) is a three-semester (9-credit) graduate certificate in pedagogy for NDSU graduate students from across campus who plan to teach in a college or university and individuals who already have a graduate degree and work on campus. Students study contemporary education research and gain experience in the teaching and learning process through microteaching modules, field experience, peer observations, and a structured practicum.

Center for Computational Assisted Science and Technology

The Center for Computationally Assisted Science and Technology (CCAST; pronounced "c-cast") provides advanced cyberinfrastructure for research and education at NDSU and beyond. CCAST develops, manages, brokers, and operates high-performance, cloud, and interactive computing resources, and educates researchers on proper and efficient use of the resources and on other topics of interest to the computational science and engineering community. CCAST Resources include: High-performance computing (HPC) clusters; Researcher-owned compute and storage ("condo") units; Permanent and scratch data storage; Fast data transfer via Globus and ScienceDMZ; Training in advanced research computing and related topics; Consulting on computational approaches, methods, and tools; Assistance with computational workflow development; and Proposal writing assistance and collaboration.

Other Resources

The Graduate School also provides additional information on Current Student Resources and Student Support Services.

WHAT TO DO AFTER BEING ACCEPTED

An Admitted Graduate Student Checklist is available through the Graduate School that provides information on accepting your admission offer, activating your Electronic ID and email, starting the onboarding process for your assistantship, finding housing, obtaining ID card, etc.

DEPARTMENT INFORMATION

Hiring Process

See Stephanie Sculthorp-Skrei (stephanie.skrei@ndsu.edu; Hultz 100d).

ID Card

Visit the NDSU Card Center (main level of Memorial Union). Bring driver's license or Passport AND employee/student ID number and $20 (cash, check or charge to your account).

Parking Pass

Parking passes can be ordered online (see instructions and parking lot map). Graduate students typically purchase the Commuter South Permit (closest parking to Hultz Hall). Pay parking is also available (MU, T2, Visitor, and WE lots).

Office Space

Get keys from Jessica Rose for Hultz Hall, Graduate student office, and other research areas specific to your program (Laboratories, research facilities, etc.). To set up computer (if provided by your advisor) in your office, contact the NDSU IT Help Desk (submit ticket).

Trainings

Required NDSU training courses include (see central training hub at Vector Solutions):

1. Annual Notice of Policies/Designated Medical Provider (complete within 60 days of hire; needs to be completed annually),
2. Baseline Safety (complete within 60 days of hire; needs to be completed annually),
3. Lab Safety Course Modules (if working in laboratory, complete modules 1 – 7; module 2 will need to be completed at the start of each semester with the initial module 2 training in-person),
4. Equal Opportunity/Title IX (complete within 60 days of hire, attending training in-person meets the training obligation for 3 years),
5. Occupational Health and Safety Program (your advisor will complete the Hazard and Risk Assessment Form; you need to complete the Health Assessment Form; schedule an appointment with the Safety Office by calling 701/231-6740),
6. FERPA Training (needs to be completed annually). Theft, Fraud, Abuse, Waste, and Code of Conduct Training (administered by the ND University System office; its availability will be communicated directly with trainees each year),
7. Institutional Animal Care and Use Committee (CITI Program; login instructions; complete Investigators, Staff & Students Basic Course and training specific to the species you will work with (cattle, sheep, pigs, horses, etc.; training must be renewed every 3 years; create training log with assistance from advisor (this training log will be updated as your research begins and you gain skills);
8. North Dakota State Fleet (if driving state fleet vehicles; complete Driver Agreement Form and State Fleet Driver's Fueling ID Request Form; department number is 7630).

Statistical Analysis System (SAS Institute, Inc., Cary, NC)

At NDSU, SAS software is available to all students, faculty, and staff under a group license for teaching and research purposes (available as a download from the SharePoint site; installation guide; not compatible with Mac/Apple computers unless you have a virtual machine component. IT Help Desk can assist with this if needed. Another option is to use SAS OnDemand for Academics.

Animal Sciences Graduate Student Organization (ASGSO)

This is the Animal Sciences departmental organization for graduate students. ASGSO hosts monthly meetings on Fridays with a catered meal for all members. ASGSO is involved in the department by planning departmental social activities (tailgates, holiday parties, end-of-the-year parties, etc.) and volunteering at department, university, and community events as well as coordinating graduate student social, professional development, and philanthropy events throughout the semester. There is a $5 fee/semester to be an active member. Carnivore Catering is a catering business that is completely run by Animal Sciences graduate students and is a great way to earn some extra cash. This catering business is managed by an elected ASGSO member and works closely with ASGSO to serve department and community events. Being involved in ASGSO and/or Carnivore Catering is a great way to meet and build connections with other graduate students and NDSU faculty and staff! Also, within ASGSO there are opportunities to build leadership skills by being part of the executive team. All Animal Science graduate students are welcome to become members. Watch for an email to be sent out for the next monthly meeting.

USEFUL LINKS

Campus involvement (https://www.ndsu.edu/gradschool/about/campus_involvement)
Community resources (https://www.ndsu.edu/gradschool/about/community_resources)
Diversity and inclusion (https://www.ndsu.edu/gradschool/about/diversity_and_inclusion)
Student support services (https://www.ndsu.edu/gradschool/about/student_support_services)