Nutrition
Graduate Student Handbook

Department of
Food, Bioprocessing and Nutrition Sciences
Schaub Hall, Raleigh, North Carolina
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Welcome

Dear Nutrition Graduate Student,

Welcome to the interdepartmental Nutrition Graduate Program. This program represents nutrition faculty, staff, and students from six departments within the College of Agriculture and Life Sciences: Agricultural and Human Sciences; Animal Science; Food, Bioprocessing, and Nutrition Sciences; Horticultural Science; Molecular and Structural Biochemistry; and Prestage Poultry Science.

- We value diversity in our people, as well as our areas of study. Our faculty, staff, and students represent the best talent found in North Carolina, the United States, and around the globe. Areas of study range from the molecular and cellular level to feed science to public health nutrition (and almost everything in between).
- We exist to serve our stakeholders. You, our students, are our most important stakeholders. We are here to see you succeed. At the same time, we are here to teach you how to work with our other stakeholders, including the community, industry partners, and governmental agencies (to name a few). Each partnership matters to us, no matter how small or how big.
- We adapt our approach to meet your needs. Every degree has requirements that are not negotiable. However, you might be surprised at how flexible our programs can be. For example, to meet the personal and professional needs of our students, we offer face-to-face and distance education courses; students can enroll full-time or part-time; and Masters students can choose to complete a research-based thesis or participate in a professional internship/practicum experience.

We care about you as a student. If you ever have a question or concern, please don’t hesitate to contact me. I want to help.

Smile

Dr. Suzie Goodell
Director of Nutrition Graduate Programs
919-513-2632
suzie_goodell@ncsu.edu
# Nutrition Graduate Faculty

## Animal Science

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<tbody>
<tr>
<td>Dr. Kimberly D. Ange-Van Heugten</td>
<td>Dr. Joan Eisemann</td>
<td>Dr. Vivek Fellner</td>
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<td>Dr. Sung Woo Kim</td>
<td>Dr. Christian Malteca</td>
<td>Dr. Jeannette A. Moore</td>
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<td>Dr. Jack Odle</td>
<td>Dr. Carrie Pickworth</td>
<td>Dr. Matthew H. Poore</td>
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<td>Dr. Shannon Phillips</td>
<td>Dr. Paul D. Siciliano</td>
<td>Dr. Giuseppe Valachhi</td>
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<td>Dr. Eric van Heugten</td>
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## Agricultural and Human Science

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<tbody>
<tr>
<td>Dr. Dara Bloom*</td>
<td>Dr. Carolyn Dunn</td>
<td>Dr. Lindsey Haynes-Maslow*</td>
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</table>

* Currently non-voting members of the NGF
Food, Bioprocessing and Nutrition Sciences

Dr. Jon C. Allen
Dr. Natalie K. Cooke
Dr. Mario G. Ferruzzi
Dr. April Fogleman
Dr. Suzie Goodell
Dr. Keith Harris
Dr. Colin D. Kay
Dr. Slavko Komarnytsky
Dr. Mary Ann Lila
Dr. Andrew Neilson*
Dr. Muquarrab Quresh*

Horticultural Science
Dr. Massimo Iorizzo

Molecular and Structural Biochemistry
Dr. Kerim Eroglu
Dr. Arion Kennedy*

Prestage Poultry Science
Dr. Ken E. Anderson
Dr. Peter R. Ferket
Dr. Jesse L. Grimes
Dr. Matthew D. Koci
Dr. Kimberly A. Livingston
Dr. Paul E. Mozdziak
Dr. Edgar Oveiedo-Rondon
Dr. Ondulla T. Toomer

* Currently non-voting members of the NGF
Best Practices for Graduate Education

Graduate education is a preparation for careers that make important contributions to society. The primary responsibility for successful completion of a graduate degree rests with the student but advisors play an important role in guiding this progress. The relationship between advisee and advisor may not be familiar from the undergraduate environment and so this document aims to set out the responsibilities and expectations of both partners in this relationship.

A guiding principle for the NC State community of scholars is that we work respectfully with diverse faculty, students and peers, regardless of race, gender, religion, sexual orientation or national origin, striving for an environment that is safe, free of harassment and welcoming to all.

Note: Not all of the following information will apply to students seeking a Master in Nutrition (non-thesis) Degree.

General

1. The student and the advisor are expected to behave in a professional way.
2. Both the student and the advisor are expected to be familiar with the policies of the Graduate School, and of the relevant graduate program.
3. Faculty Mentor/Committee Chair should seek funding to support advisees’ research, in disciplines where it is customary and possible for advisors to do so.
4. The Faculty Mentor/Committee Chair should encourage participation in the intellectual community of the profession, and the student should take advantage of such opportunities. This includes membership and participation in professional societies, attending scholarly meetings, conferences, seminars and colloquia, meeting with and hosting visitors, participation in graduate student association events, journal clubs, etc.
5. The Faculty Mentor/Committee Chair should not ask advisees to undertake tasks for the personal (non-professional) benefit of themselves, nor are advisees obligated to perform such tasks. However, it is appropriate for advisees to help on occasion with tasks or events benefiting the research program, or the department.
6. Faculty Mentor/Committee Chair should avoid involving advisees in disagreements with colleagues, and should not interfere with advisees’ interactions with colleagues.
Conduct of Research

1. The research advisor and student should negotiate clear expectations about the graduate degree before agreeing to work together. The advisor should make clear particularly any expectations for publication before graduation. These expectations should not change over time in a way that lengthens the time to degree for the student.

2. The advisor and student should work together to identify a suitable thesis/dissertation topic, and to select the advisory committee.

3. The advisor and student should meet regularly to report progress and results, to review the same, and to address research difficulties. Both advisor and student should strive to maintain steady progress towards the degree, which requires advisors to provide timely, constructive feedback. The advisor should be candid and fair, and committed to the advisees’ best interests.

4. The advisor and student should be aware of, and follow, university and professional standards for research ethics, scholarly integrity, and the responsible conduct of research. They should likewise be aware of, and follow, university policies concerning intellectual property.

5. The advisor and student should jointly seek opportunities for professional development, such as attending conferences, writing and submitting proposals for funding, presenting research results at professional meetings, reviewing, etc.

6. It is recommended that the advisor and student meet with the advisory committee at least once a year to review the student’s progress and status. Both should be responsive to the constructive advice and criticism of committee members.

7. At the start of each semester, the advisor and student should agree upon and document the standards for receiving a satisfactory grade for any research/thesis/dissertation credits in which the student will be registered.

8. Both the advisor and the student should acknowledge the contributions of all members of the research team in publications and presentations. The advisor and student should discuss and agree on the list of authors of any work submitted for publication.

9. The advisor is expected to help prepare the student for a successful career following graduation, to help them find appropriate career opportunities, and to provide guidance in the job search process.

Teaching

1. Instructors and teaching assistants are expected to meet before the beginning of the semester to establish roles and responsibilities. The instructor should provide access to all materials and facilities needed for the course, lab, or studio.

2. Teaching assistants are expected to attend the course they are assisting unless otherwise notified by the instructor.

3. The teaching assistant should notify the instructor any time there is a problem meeting their responsibilities.

4. Instructors and teaching assistants should communicate regularly about problems or issues that may arise, and instructors should provide constructive feedback to TAs.

5. Instructors should respond promptly to requests for guidance, and teaching assistants should likewise respond promptly to requests for information or grading results.

6. Both instructors and teaching assistants are expected to be helpful to students, to act professionally at all times, and to be respectful when communicating with students.

7. It may be useful for the instructor and teaching assistants to assess the course after its completion, with the goal of continual improvement.
# Schedule of Required Documents

<table>
<thead>
<tr>
<th>REQUIRED FORMS/ACTIONS*</th>
<th>WHEN REQUIRED</th>
<th>WHO INITIATES</th>
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<tbody>
<tr>
<td>Complete, official transcripts from universities and colleges attended, including degrees and dates awarded. <em>(MR, MS, PhD)</em></td>
<td>Before the beginning of the first semester of enrollment</td>
<td>Student is responsible for providing official transcripts to the Graduate School</td>
</tr>
<tr>
<td>Patent Agreement <em>(MR, MS, PhD)</em></td>
<td>Before the beginning of the first semester of enrollment</td>
<td>Initiated by student online via Student Self-Services in MyPackPortal</td>
</tr>
<tr>
<td>Submit Graduate Plan of Work <em>(MR, MS, PhD)</em></td>
<td>During second semester or earlier</td>
<td>MyPackPortal &gt; Student Information System Home Page &gt; Advising Tile &gt; Graduate Plan of Work</td>
</tr>
<tr>
<td>Appointment of Advisory Committee and submission of Plan of Work <em>(PhD)</em></td>
<td>During second semester or earlier</td>
<td>Initiated by student with Advisor and Committee. Approved and submitted to the Graduate School by the DGP <em>(doctoral students only)</em></td>
</tr>
<tr>
<td>Assignment of Graduate School Representative, if required <em>(PhD)</em></td>
<td>After Plan of Graduate Work has been approved by Graduate School</td>
<td>Appointed by the Graduate School</td>
</tr>
<tr>
<td>Request to Schedule the Preliminary Oral Examination <em>(PhD)</em></td>
<td>After written preliminary exams have been passed, but no later than one semester prior to final oral exam. Request must be received in Graduate School at least two weeks prior to proposed exam date</td>
<td>Initiated by student and submitted to the Graduate School by the DGP</td>
</tr>
<tr>
<td>Report on Outcome of Preliminary Oral Examination <em>(PhD)</em></td>
<td>Immediately after oral examination is completed</td>
<td>Submitted to the Graduate School by the DGP within five working days of exam</td>
</tr>
<tr>
<td>REQUIRED FORMS/ACTIONS*</td>
<td>WHEN REQUIRED</td>
<td>WHO INITIATES</td>
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<tr>
<td>Request to Schedule the Final Oral Examination <em>(MS or PhD)</em></td>
<td>Must be received in Graduate School at least two weeks prior to proposed exam date (see right)</td>
<td>Initiated by student and submitted to the Graduate School by the DGP. Student must also apply to graduate at the same time via MyPack Portal.</td>
</tr>
<tr>
<td>Report on Outcome of Final Oral Examination <em>(MS or PhD)</em></td>
<td>Immediately after final oral exam</td>
<td>Submitted to the Graduate School by the DGP.</td>
</tr>
<tr>
<td>Draft submission of thesis or dissertation to Graduate School for thesis review</td>
<td>Immediately after final examination is successfully completed (within 24 hours of receiving an unconditional pass). This must be completed by the graduation deadline for the semester as noted in the Graduate School Calendar.</td>
<td>Student must electronically submit the draft PDF file to the Thesis Editor via the ETD submission system for the thesis review.</td>
</tr>
<tr>
<td>Final submission of thesis or dissertation to Graduate School for Graduate School acceptance</td>
<td>Final error free file must be submitted before the deadline for the semester as noted in the Graduate School Calendar.</td>
<td>Student must electronically submit the final error free file to the Thesis Editor via the ETD submission system for acceptance by the Graduate School.</td>
</tr>
<tr>
<td>Final committee approval of thesis or dissertation</td>
<td>Online approval by the student’s advisory committee, through MyPackPortal before the deadline for the semester as noted on the ETD web page.</td>
<td>Student unconditionally passes the final exam and the ETD is accepted by the Thesis Editor.</td>
</tr>
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*Receipt of materials in the Graduate School can be by campus mail, hand delivery, fax, or email as appropriate.*
Master of Nutrition (Non-thesis)

This professional degree does not require a thesis and is considered a “terminal” degree which does not provide research training leading to a Doctoral degree. Students in this degree program normally do not continue further graduate work. However, many students continue onto professional schools (medical, veterinary, and dental). The Plan of Work is submitted at the end of the coursework in the second semester. The student’s faculty advisor is the sole member of the committee. This degree requires a minimum of 36 credit hours for completion.

1st Semester
- Outstanding degree conferred transcripts are due
- Day 1 – Sign patent agreement in MyPack Portal
- Advisor meeting (face-to-face or teleconference)
- 9 hours of courses (9 hours completed)

2nd Semester
- 9 hours of courses (18 hours completed)
- Advisor meeting
- File Graduate Plan of Work

3rd Semester
- 9 hours of courses (27 hours completed)
- Advisor meeting

4th Semester
- 9 hours of courses (36 hours completed)
- Apply for graduation
(MR) Master of Nutrition (Non-thesis)

Plan of Work
The Master of Science in Nutrition (Non-thesis) Plan of Work requires a minimum of 36 credit hours. This degree may be earned online or in person. You will choose either the Human Nutrition or Feed Science option within the MR or PSM degree plans.

A. 20 of the 36 hours must be 500 or 700 level.
B. **NTR 624** or **625** – 4-6 hours of an independent study project to include library or laboratory research, or a service project of similar depth is required.
C. **NTR 601** – Seminar (1)
D. **BCH 451** or **NTR 501**
E. **BCH 553** or **BCH 571**
F. Core Courses - Minimum 8 hours (*see core courses list at back of handbook*)
G. Minor in another department **IS NOT AVAILABLE**.
Professional Science Master: Master of Nutrition

36 credit hours. Students pursuing the Distance Education or Professional Science Master (PSM) options in the Master of Nutrition degree should consult with the DGP for more specific program requirements. The PSM option requires that a subset of elective courses include approved business, communications, and regulatory affairs, and a practicum with a nutrition-related employer.

A. Science courses in Nutrition science to meet the Master of Nutrition requirements listed below. 16 or more credits (excluding the employer projects/internship courses). Note: (*) Indicates courses available by distance education.

1. **BCH 451 – Introductory Biochemistry (4)**
   Introduction to and survey of the fundamental principles of biochemistry, emphasizing the chemistry of living organisms, chemical structures, and interactions of and between biomolecules.
   *Offered in Fall, Spring, and Summer.*
   OR
   **NTR 501 Advanced Nutrition and Metabolism* (3)**
   Introduction to and survey of the fundamental principles of biochemistry, emphasizing the chemistry of living organisms, chemical structures, and interactions of and between biomolecules.
   *Offered in Fall, Spring, and Summer.*

2. **BCH 553 – Introduction to Molecular Biology & Metabolism (3)**
   *Credit is not allowed for both SCH 453 and BCH 553.*
   *Offered in Fall, Spring, and Summer.*
   OR
   **BCH 571 – Regulation of Metabolism (3)**
   Study of hormonal, enzymatic and molecular-genetic regulation of carbohydrate and lipid metabolism; emphasis on mammalian species.
   *Offered in Fall only in alternate odd years.*
3. **NTR 601 or FM 601 – MR Seminar** (1)

4. At least eight additional credit hours of NTR (nutrition science) courses at the 500 or 700 level.

5. Three to six credits, to total at least 18 credits from the above group, from the following:

   **FM 594 – Advanced Feed Mill Practicum**
   This course will teach students the principles of operating a modern feed mill. Students will receive ingredients, grind grain, manufacture feed, and perform quality checks on finished feed products. Students will complete safety, quality assurance, and feed processing training units as part of their training. 
   *Offered in Fall and Spring.*

   **NTR 624, 625 or 693 – Nutrition, Food and Feed Science Practicum or Research** (1-6)
   
   **NTR 624** – Analysis of current problems in nutrition. Also entails the scientific appraisal and solution of a selected problem designed to provide training and experience in research.
   *Offered in Fall, Spring and Summer. Units 1-6*

   **NTR 625** – Directed research in a specialized phase of nutrition designed to provide experience in research methodology and philosophy.
   *Offered in Spring only. Units 1-6*

   **NTR 693** – Instruction in research and research under the mentorship of a member of the Graduate Faculty.
   *Offered in Fall, Spring, and Summer. Units 1-9*

B. **Business, leadership and professional development courses that may be from NCSU, or through UNC-Online at other campuses.** Between 9 and 12 credits required from group B (Business, Communication and Regulatory areas) to qualify for completion of the Professional Science Master. Non-PSM students may choose to complete the Master of Nutrition without meeting this requirement; the remaining courses in the degree would then be free electives.

C. **Elective sciences courses:** Choose courses from the Core Courses, or additional Nutritional courses listed under Numbers 1-4.
Guidelines for Master of Science Program

This list of *guidelines*, rather than hard and fast rules, should be viewed as general milestones in a two-year M.S. Program. To best use these guidelines, students should meet with their advisor and committee to tailor the guidelines into specific goals for their degree program.

1st Semester

- Outstanding Degree Conferred transcripts are due
- Day 1 – Sign patent agreement in MyPack Portal
- 9 hours of courses (9 hours completed)
- Initial experiments in the laboratory
- Outline of literature review completed
- Select committee members (consult minor representative if appropriate)

2nd Semester

- 9 hours of courses (18 hours completed)
- Experimental methods developed
- 10-25% of research is completed
- First draft of literature review completed
- Committee meeting and Student Progress Evaluation form completed
- File Plan of Work (electronic)
- Request for minor
- Request for co-major (requires approval from both departments)

1st Summer

- 25-50% of research is completed
3rd Semester

- 9 hours of courses (27 hours completed)
- 50-75% of research is completed
- Write publication/thesis chapter
- Submit abstract for presentation at a national/international meeting
- Design final series of experiments

4th Semester

- 3+ hours of courses (≥ 30 hours completed)
- 70-100% of research is completed
- Final draft of literature review completed
- Write publication/thesis chapter
- Present research at a national/international meeting
- Committee meeting to determine completion of research project and Student Progress Evaluation form completed

2nd Summer

- Finish writing
- Defend thesis
- Apply for graduation (electronic)
- Present research at a national/international meeting
- Note: International students on J1 visas have to leave the country within 30 days after the thesis is submitted to the graduate school
- The university Graduate Student Support Plan (GSSP) is attached and can be found on the web at grad.ncsu.edu/students/gssp.

The procedures for the Master’s Degree are found at grad.ncsu.edu/students/rules-and-regulations/handbook/3-4-time-limits/.

Students who complete the Master of Science degree and expect to enter the Ph.D. program must have demonstrated strong academic performance and ability to perform research on an independent basis. The Advisory Committee, by unanimous consent, decides upon the eligibility of each student to enter the Ph.D. program. Upon recommendation of the Advisory Committee, the Admissions Committee and the Director of Graduate Programs, the Graduate School may approve admission to the Ph.D. program.

Most forms can be located on the Graduate School Web Page: http://www.ncsu.edu/grad/faculty-and-staff/forms-list.html
ADVISORY COMMITTEE AND PROGRESS EVALUATION

Students and their major advisor should select faculty members to serve on the advisory committee as soon as possible after beginning their program. The committee should meet on a regular basis (at least annually) to evaluate the student’s progress and review plans. Faculty on the advisory committee will be asked to assess the effectiveness of the program at preparing each student in the areas of the expected program outcomes at the time of the preliminary and final exams.

The committee for a Master of Science must include at least three associate or full graduate faculty members. Students who have a Minor on their Plan of Work must designate a committee member from the minor program as the minor representative.

TEACHING ASSISTANTS

The requirement to serve as a teaching assistant is at the discretion of the Director of Graduate Programs for the department in which the graduate student’s faculty advisor resides. Students should register for an appropriate section of NTR 685 or 885 to earn credit for and track this activity.

Maximum completion time is six calendar years.

Note: Students may not be cleared for graduation or permitted to schedule final oral examinations in a given semester unless the Plan of Work for the degree program (or option within the degree program) is submitted to the Graduate School prior to the first day of classes for that semester. In addition, a student’s Plan of Work must be submitted to the Graduate School at least six weeks before a final oral examination will be scheduled for that student.
**Master of Science in Nutrition (Thesis)**

**Plan of Work**

The Master of Science in Nutrition (Thesis) Plan of Work requires a minimum of 30 credit hours:

A. 20 of the 30 hours must be 500 or 700 level or above.

B. **NTR 695** – 4-6 hours of an independent study project to include library or laboratory research, or a service project of similar depth is required.

C. **NTR 601** – Seminar - 1 hour

D. **BCH 451** or **NTR 501**

E. **BCH 553** or **BCH 571**

F. Core Courses – 8 hours *(see core course list at back of handbook)*

G. Teaching *(optional)*

**NTR 685 – Master’s Supervised Teaching (1-3)**

Teaching experience under the mentorship of faculty who assist the student in planning for the teaching assignment, observe and provide feedback to the student during the teaching assignment, and evaluate the student upon completion of the assignment

*Prerequisite: Master’s student*

H. A minor in another department or program requires 6-10 additional credits.

I. Maximum 400 Level Courses allowed is 6 hours
## Course Requirements Nutrition Minor (MS)

At least 8 credit hours from the following group are required for a Minor (MS) in Nutrition, including not more than 3 hours at the 400 level.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>NTR 500</td>
<td>Principles of Human Nutrition</td>
</tr>
<tr>
<td>BCH 453 or 553</td>
<td>Biochemistry of Gene Expression</td>
</tr>
<tr>
<td>BCH 571</td>
<td>Regulation of Metabolism</td>
</tr>
<tr>
<td>NTR 415/515</td>
<td>Comparative Nutrition</td>
</tr>
<tr>
<td>NTR 419</td>
<td>Human Nutrition in Health and Disease</td>
</tr>
<tr>
<td>NTR 501</td>
<td>Advanced Nutrition and Metabolism</td>
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<tr>
<td>NTR 510</td>
<td>Maternal and Infant Nutrition</td>
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<tr>
<td>NTR 515</td>
<td>Advanced Comparative Nutrition</td>
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<td>NTR 520</td>
<td>Community Nutrition</td>
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<td>NTR 521</td>
<td>Life Cycle Nutrition</td>
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<tr>
<td>NTR 525</td>
<td>Advanced Feed Science and Technology</td>
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<td>NTR 550</td>
<td>Applied Ruminant Nutrition</td>
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<td>NTR 555</td>
<td>Exercise Nutrition</td>
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<td>NTR 554</td>
<td>Lactation, Milk and Nutrition</td>
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<tr>
<td>NTR 557</td>
<td>Nutraceuticals and Functional Foods</td>
</tr>
<tr>
<td>NTR 561</td>
<td>Equine Nutrition</td>
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<tr>
<td>NTR 594</td>
<td>Special Topics in Nutrition</td>
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<tr>
<td>NTR 624</td>
<td>Topical Problems in Nutrition</td>
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<tr>
<td>NTR 701</td>
<td>Protein and Amino Acid Metabolism</td>
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<td>NTR 706</td>
<td>Vitamin Metabolism</td>
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<tr>
<td>NTR 709</td>
<td>Energy Metabolism</td>
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<tr>
<td>NTR 775</td>
<td>Mineral Metabolism</td>
</tr>
<tr>
<td>NTR 625</td>
<td>Advanced Special Problems in Nutrition</td>
</tr>
<tr>
<td>ANS/NTR 785</td>
<td>Digestion and Metabolism in Ruminants</td>
</tr>
<tr>
<td>NTR 790</td>
<td>Advanced Feed Formulation</td>
</tr>
</tbody>
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Introduction: Generic Comments for Master of Science Graduate Student

In the NTR program, your academic advisor serves as your thesis chair. Your thesis chair and committee will assist you in formulating your research questions, research design, data collection, data analysis, thesis structure, and thesis writing components of your graduate degree. Frequent and regular contact with your thesis chair and with the other members of your committee is key to a successful master’s thesis project. Faculty members in the Department represent a variety of disciplines and thesis projects investigate a variety of research questions using different theories, methodologies, and data analysis strategies. No one set of guidelines can cover every question or issue. Therefore, regular contact with faculty to review progress and questions is a positive strategy.

Students are encouraged to think of their committee as a team. While the Chair directs the thesis project, the other members of your committee have complementary expertise, experiences, and skills to assist you in your thesis project. For example, one member may have the most skill in a specific form of statistical analysis and she/he would be the appropriate person to consult with should you have questions in using this technique in your thesis project.

The secret to professional writing is constant review and revision. You may start drafting a section or chapter of your thesis, then review and edit it one or more times before giving to your chair for review. You may then edit it again and then send it to your chair again and/or committee members for review. While spell check will find your typos, issues such as overuse of passive voice require careful reviewing, editing, and re-writing. Your chair will work with you on this process.

Reviewing theses written by other graduate students in the program is one way to gain an understanding of the structure and content of a master’s thesis. Ask your advisor for the name of a student who has successfully completed a thesis. By logging-on to the NC State Library you will be able to find the electronic (PDF) file of this student’s thesis to read or to download.

The NC State Graduate School provides a variety of resources for the professional development and success of graduate students. You should be regularly checking with the Graduate School.
web for workshops, tutorials, online short courses, and guidelines for graduate students. For example, the NC State Graduate School offers workshops for understanding and using the ETD format. While some of these workshops are on-campus, there are also online materials for distance-education students. The Preparing Future Leaders (PFL) and Thesis and Dissertation Support Services links on the NC State Graduate School web page provide links to seminars, workshops, and on-demand resources. Under the Preparing Future Leaders, there are modules on the Responsible Conduct of Research that provide on-line resources and links on human subjects and other conduct of research issues.

The structure of the thesis may be based on a monograph, five chapter model or may be based on a journal article or articles model. Both models have their advocates and are acceptable. Committee chairs will advise the student as to which type of format they want the student to organize and present the results of the thesis research.

Thesis students should review NC State requirements for Human Subjects Research and seek approval from the NC State Institutional Review Board (IRB) for their project. IRB submission forms need to be signed by both the student and her/his thesis advisor. The NC State SPARCS (Sponsored Programs and Regulatory Compliance) web science provides detailed information and links to the IRB and IACUC and the appropriate policies and forms.

Starting with a relatively short pre-proposal (e.g., 4-5 pages) is one way to initiate the thesis process. The pre-proposal should contain a statement of the research problem an overview of the scholarly literature, initial research questions and/or hypotheses, an outline of data collection and methods, and a statement of anticipated findings. The Chair will review and approve the pre-proposal and then the student will circulate to the other members of the committee. Comments will be used to revise and advance the proposed research methodology and thesis project. The pre-proposal can then be expanded into a well-developed thesis proposal.

**Basic Information**

The master’s thesis should be an original research paper that is suitable for submission to a peer reviewed academic journal. The thesis topic should focus upon some aspect of family life and/or youth development that is (1) of interest to the student, (2) researchable in the published literature, (3) manageable within the student’s graduate program time frame, and (4) agreed upon by the student’s adviser and all Graduate Committee members. Basically, the thesis should contribute new data, insights, and/or information to the academy related to youth, family, and community sciences, and not merely take existing data, insights, and/or information and reorganize them into a new format.

The student must be the sole author. There are no restrictions on the type of methodology utilized in the paper. For example, a student may use qualitative data, quantitative data, or a combination of the two. Students may collect their own data or they may analyze pre-existing data. Students should consult with their faculty adviser and Graduate Committee to design research methods that are appropriate for the project that is to be undertaken.

**Thesis Length and Format**

Master’s theses will vary in length and format, depending upon the nature of the project and the individual student and his/her advisor and Graduate Committee. However, the student should
keep in mind that a typical peer-reviewed article (and hence a typical master’s thesis) ranges from 30 to 60 pages, typed and double-spaced and including tables, figures, and references. The student should follow the Publication Manual of the American Psychological Association (APA) Sixth Edition regarding citation format and style; the thesis must follow all guidelines of the NC State Graduate School regarding thesis format and submission.

The ultimate decision regarding the thesis format is that of the student and his/her advisor and Graduate Committee. However, there are basically two accepted formats, each involving five (5) content chapters:

**FORMAT 1: SCHOLARLY MONOGRAPH TYPE FORMAT**

- Title Page
- Abstract
- Table of Contents
- List of Tables
- List of Figures

**Chapter 1: Introduction**

The primary purpose of the introduction is to provide the reader with an overview of the study itself and the influencing factors in its development. This section should briefly introduce the setting and methods used in the study and present the study purpose and hypothesis. The first two to three paragraphs of this section should focus on summarizing the nature of the thesis, including the writer’s motivation for choosing the topic. Next, the writer should discuss the significance of the topic in relation to the setting or the framework in which the study occurs. In addition, the writer should include an acknowledgment of the prior research or information upon which the study is based. The scope of the study should be presented, along with a general description of what the reader can expect in the remainder of the document. Finally, the introduction should end with a brief discussion of what the writer anticipates will be the value of the research project.

**Chapter 2: Review of Related Literature**

The Literature Review provides the necessary background information to familiarize the reader with prior research and relevant theory. Three general types of literature reviews exist: the broad scan, the focused review, and the comprehensive critique. The chapter should be organized into subheadings that correspond to the major constructs to be explored in the thesis. The first step in a literature review is to access an appropriate scholarly database through the NC State Library and to use this database to identify articles in scholarly journals and monographs. State of the discipline review articles and empirical articles and chapters from primary research are important components of the literature review section. Students may also find that a literature review software program (e.g., Refworks, Endnote) will be helpful in organizing their review and references.

**Chapter 3: Methodology**

In this section, the writer describes the sample population and procedures used in enough detail that others could replicate the study and verify its validity. This section should begin with specific data on the number of study participants, how they were chosen, and relevant demographic information. The writer may also present the rationale for the specific sample size used. Next, all
tools and instruments used in the study should be described. If such tools are described in detail elsewhere in the literature, the writer can indicate this along with a relevant reference. Actual surveys or questionnaires will not be presented here. Instead, the writer provides an overview and then inserts copies of the tools into the Appendix at the end of the paper.

Chapter 4: Results/Discussion

The Results and Discussion portion of the thesis should be treated as two distinct components and should remain separate with the appropriate headings within this chapter. The results portion only presents the hard data without any accompanying analysis or interpretation. This section should include, where possible, a visual representation of the data, such as in charts, graphs, or tables. Each figure should have a brief description associated with it and clearly marked labels. The results of all statistical analyses should be presented, such that the reader has enough information to determine reliability, validity, and the statistical significance of the relationships among variables. This section should also be clearly organized by subheadings. The discussion section should include interpretation of the results and compare findings to other similar work in the field. Differences and similarities to other studies should be noted with theories or explanations as to why the investigator observed the results they did.

Chapter 5: Conclusions and Implications

The final content chapter of the master’s thesis is the Conclusions chapter. Here is where the writer begins by describing the entire project in one to two brief paragraphs. This chapter should remind the reader of the initial problem statement or hypothesis and then relate that to the results from the study. The writer should then present any conclusions reached or any new insights that arose from this work. The strengths and limitations of the research should be identified and discussed. Finally, the writer should present the research in terms of the overall impact in the field. For example, how will the results of this study change the way a person or organization behaves or makes decisions? One caution when writing this chapter is not to merely reiterate the other portions of the thesis. Instead, the writer should strive to leave a lasting impression upon the reader, conveying with the same passion that drove the research project the importance of the work completed.

References

All references must be formatted following APA Style.

Appendices

FORMAT 2: JOURNAL ARTICLE/S TYPE MODEL

Title Page
Abstract
Table of Contents
List of Tables
List of Figures
Chapter 1: Introduction

The primary purpose of the introduction is to provide the reader with an overview of the study itself and the influencing factors in its development. This section should briefly introduce the setting and methods used in the study and present the study purpose and hypothesis. The first two to three paragraphs of this section should focus on summarizing the nature of the thesis,
including the writer’s motivation for choosing the topic. Next, the writer should discuss the significance of the topic in relation to the setting or the framework in which the study occurs. In addition, the writer should include an acknowledgment of the prior research or information upon which the study is based. The scope of the study should be presented, along with a general description of what the reader can expect in the remainder of the document. Finally, the introduction should end with a brief discussion of what the writer anticipates will be the value of the research project.

**Chapter 2: Review of Related Literature**

The Literature Review provides the necessary background information to familiarize the reader with prior research and relevant theory. Three general types of literature reviews exist: the broad scan, the focused review, and the comprehensive critique. The chapter should be organized into subheadings that correspond to the major constructs to be explored in the thesis. The first step in a literature review is to access an appropriate scholarly database through the NC State Library and to use this database to identify articles in scholarly journals and monographs. State of the discipline review articles and empirical articles and chapters from primary research are important components of the literature review section. Students may also find that a literature review software program (e.g., Refworks, Endnote) will be helpful in organizing their review and references.

**Chapter 3: Text of peer-reviewed article A to be submitted for publication**

*NOTE: The specific format and content of this chapter is dependent upon the specific journal to which the article will be submitted. Students should work with their thesis chair and committee to identify a peer-reviewed journal that is appropriate for the manuscript.*

**Chapter 4: Text of peer-reviewed article B to be submitted for publication**

*NOTE: A second article is not a requirement for all students. It is up to the discretion of the thesis chair whether the student submits one or two articles from the thesis research. The specific format and content of this chapter is dependent upon the specific journal to which the article will be submitted.*

**Chapter 5: Conclusions and Implications**

The final content chapter of the master’s thesis is the Conclusions chapter. Here is where the writer begins by describing the entire project in one to two brief paragraphs. This chapter should remind the reader of the initial problem statement or hypothesis and then relate that to the results from the study. The writer should then present any conclusions reached or any new insights that arose from this work. The strengths and limitations of the research and results should be discussed. Finally, the writer should present the research in terms of the overall impact in the field. For example, how will the results of this study change the way a person or organization behaves or makes decisions? One caution when writing this chapter is not to merely reiterate the other portions of the thesis. Instead, the writer should strive to leave a lasting impression upon the reader, conveying with the same passion that drove the research project the importance of the work completed.

**References**

*All references must be formatted following APA Style.*

**Appendices**

**The Thesis Proposal**

The student must develop a proposal for his/her master’s thesis and submit it to his/her advisor.
and total Graduate Committee for approval before collecting/accessing any data. Usually, the thesis proposal presented to the Committee is the first three chapters of the total thesis either fully written or just in flushed-out outline format; the student should consult his/her adviser regarding the proposal format to be presented to the Committee. The thesis proposal is an important part of the overall thesis process because a well-written proposal can make the master’s thesis easier to complete.

Whatever the format, the thesis proposal should communicate clearly to the Graduate Committee:

- The problem, hypothesis, or research question to be explored;
- The importance of the research;
- Significant research already completed by others related to the thesis topic;
- A proposed research methodology (i.e. qualitative or quantitative); and
- The potential outcome and importance of the research project.

The entire Graduate Committee must approve the thesis proposal before the student may begin collecting data. Additionally, students must obtain NC State Human Subjects Division permission for any planned thesis research involving collecting data from human subjects before collecting data.

**Defending and Submitting the Thesis**

The student should consult the current NC State Graduate School catalog for all policies, submission/graduation deadlines, exam and defense procedures, thesis review, and submission guidelines for master’s theses. Theses are submitted electronically to the Graduate School.

**Thesis Defense**

The thesis defense is scheduled through the Department and the Graduate School. Students should first try to find a consensus date and time for all the members of the committee consistent with the NC State Graduate School guidelines. The date, time, and place of the defense along with the abstract of the thesis will be posted on the Department’s web page. Students should prepare a 15-20 minute overview of the thesis for presentation at the start of the defense. All members of the university community may attend the thesis defense (although it is rare for anyone from outside the Department to attend). Members from outside the NC State community may attend with the permission of the Chair. Students are encouraged to also present the results of their research at a professional meeting, at the NC State Graduate Research Symposium (poster presentation), and/or at a Departmental event.

**Publishing the Thesis**

Ideally, a student should submit the thesis to a peer-reviewed journal soon after a successful defense. Before students submit the article to a journal, they should consider making revisions in response to feedback offered by faculty members serving on the student’s thesis committee. Many times, the student’s adviser and other Graduate Committee members are involved as co-authors, depending upon the amount of actual work contributed to the thesis project and article development. Authorship and order of authors should be agreed upon in advance by the student and his/her adviser and any other co-authors as appropriate. If the student has not published within 12 months of the thesis defense, the thesis chair may opt to publish the article as first author.
Guidelines for Doctoral Program

This list of guidelines, rather than hard and fast rules, should be viewed as general milestones in a three-year Ph.D. Program. To best use these guidelines, students should meet with their advisor and committee to tailor the guidelines into specific goals for their degree program.

1st Semester
- 9 hours of courses (36 hrs [NCSU] or 18 hrs [non-NCSU] transferred from M.S. program)
- Initial laboratory experiments and draft of review of literature
- Review information for written preliminary exam
- Select committee members (consult minor representative if appropriate)

2nd Semester
- 9 hours of courses
- Experiments in the laboratory and/or outline of review of literature
- Committee meeting and Student Progress Evaluation form completed
- File plan of work (electronic)

1st Summer
- Written Preliminary Exam
- 5-20% of research is completed

3rd Semester
- 9 hours of courses
- 15-30% of research complete (encouraged to submit abstract for presentation at national/international meeting)
- Write grant proposal or other document for oral preliminary exam

4th Semester
- 9 hours of courses
- 25-50% of research complete
- Final draft of literature review completed
- Write publication/thesis chapter
• Present research at a national/international meeting
• Committee meeting and Student Progress Evaluation form completed
• Oral Preliminary Exam

2nd Summer
• Research/Publication

5th Semester
• 9 hours of courses
• 50-100% of research is complete
• Write publication/thesis chapter
• Submit abstract for 2nd presentation at national/international meeting

6th Semester
• 9 hours of courses
• 100% of research is complete
• Write publication/thesis chapter
• Present second paper at a national/international meeting
• Committee meeting to determine completion of program and Student Progress Evaluation form completed

3rd Summer
• (12) Total program of 72 hours complete (36 or 54 taken on the Ph.D. program; including hours for research, teaching and thesis preparation)
• Finish writing
• Apply for graduation (electronic)
• Present exit seminar and defend thesis
• Note: International students on J1 visas have to leave the country within 30 days after the thesis is submitted to the graduate school.

The procedures for the Doctorate of Philosophy Degree are found at grad.ncsu.edu/students/rules-and-regulations/handbook/3-4-time-limits/.

**Ph.D. Timeline**

**Advisory Committee and Progress Evaluation**

Students and their major advisor should select faculty members to serve on the advisory committee as soon as possible after beginning their program. The committee should meet on a regular basis (at least annually) to evaluate the student’s progress and review plans. Faculty on the advisory committee will be asked to assess the effectiveness of the program at preparing
each student in the areas of the expected program outcomes at the time of the preliminary and final exams.

The committee for doctoral students must include at least four associate or full graduate faculty members, including one member from outside the major program/department who is willing to serve the role of a Graduate School Representative. Students who have a Minor on their Plan of Work must designate a committee member from the minor program as the minor representative.

**Note:** Students will not be cleared for graduation or permitted to schedule preliminary or final oral examinations in a given semester unless the Plan of Work for the degree program (or option within the degree program) in which they plan to graduate is submitted to the Graduate School prior to the first day of classes for that semester. In addition, a student’s Plan of Work must be submitted to the Graduate School at least six weeks before a preliminary or final oral examination will be scheduled for that student.

**Plan of Work**

The Doctor of Philosophy (Ph.D.) Plan of Work requires a minimum of 72 credit hours.

A. **NTR 895** – Variable hours of an independent study project to include library or laboratory research, or a service project of similar depth is required.

B. **NTR 801** – Seminar 1 hour

C. **BCH 553** or **453** – Biochemistry of Gene Expression (3) or **BCH 571** – Regulation of Metabolism (3)

D. At least one course at the 700 level in a department or program other than Nutrition that interfaces with the interdisciplinary field of nutrition. The student’s advisory committee must approve the selection of the specific course.

E. All of the following courses:
   - **NTR 701** – Protein & Amino Acid Metabolism (3)
   - **NTR 775** – Mineral Metabolism (3)
   - **NTR 706** – Vitamin Metabolism (3)
   - **NTR 709** – Energy Metabolism (3)
   - **NTR 797** or **801** – DR Seminar (1)

F. At least 4 credit hours from of additional 500 or 700 level courses with an NTR Prefix.

G. **NTR 685 Doctoral Teaching** *(optional)*
   Teaching experience under the mentorship of faculty who assist the student in planning for the teaching assignment, observe and provide feedback to the student during the teaching assignment, and evaluate the student upon completion of the assignment.

H. A minor in another department or program requires 6-10 additional credits *(optional).*

I. 400-level courses not allowed.

J. The 72-credit requirement for a Ph.D. may include up to 36 credit transferred from a relevant M.S. degree taken at NCSU if there is no break in registration or 18 credit transferred from a M.S. degree taken at another university or a prior NCSU Master degree. Select a minor in another discipline or field may be required by the advisory committee, but is not a program requirement. Credits for a minor are variable depending upon the requirements of the minor department or program.
**Preliminary Comprehensive Examinations**

The following is a checklist to follow before scheduling exams:

1. A signed Patent Policy Agreement form must be filed with the Graduate School.
2. Student must have a committee appointed and a Plan of Work approved.
3. Student’s GPA must be 3.0 or higher.
4. Doctoral residence requirements must be met.
5. Student has completed the second year of study, completed appropriate coursework, and passed language exam if committee requires a language exam. At least four calendar months should not elapse between the preliminary oral exam and final oral defense exam.
6. The final oral defense exam is scheduled after the dissertation is completed. This exam consists largely of a defense of the dissertation but may include tests of other knowledge.

After the second year of graduate study and not later than one semester before the final oral defense examination, each doctoral student is required to take the preliminary comprehensive examinations. The examinations consist of two parts: written examinations and an oral examination. The chair of the Advisory Committee decides the format and requirements of the written exam. Requirements for written examinations in the minor field are left to the discretion of the minor department.

The questions involved may cover any phase of the course work taken by the student during graduate study or any subject logically related to an understanding of the subject matter in the major and minor areas of study. The questions are designed to measure the student’s mastery of the subject matter and the adequacy of preparation for research. Failure to pass the written preliminary examinations terminates the student’s work at this institution, subject to departmental and/or school policies with respect to re-examination.

The Advisory Committee must provide evidence to the Graduate Services Coordinator that departmental written preliminary exams have been successfully completed before the preliminary oral exam can be scheduled. Upon satisfactory completion of the written portion of the preliminary examinations and after completion of course work relevant to the examination, authorization for the preliminary oral examination is requested from the Graduate School. The form for scheduling this exam is called **Request for Approval to Schedule Doctoral Oral Examination** and is available on-line. Requests must be to the Graduate School **at least two weeks prior** to the proposed examination date. This means that the request must be given to the Graduate Services Coordinator **at least three weeks prior** to the exam for Director of Graduate Programs approval, before forwarding to the Graduate School.

The oral Preliminary Examination is conducted by the student’s advisory committee and a representative from the Graduate School and is open to all graduate faculty members. The Graduate School will notify the student and the examining committee when the exam has been approved. The oral examination is designed to test the student’s ability to relate factual knowledge to specific circumstances, to use this knowledge with accuracy and promptness and to demonstrate a comprehensive understanding of the field of specialization and related areas.

A unanimous vote of approval by the members of the advisory committee is required for the
student to pass the preliminary oral examination. However, approval may be conditioned on the successful completion of additional work in some particular field(s). All committee actions may be appealed by written application to the Graduate Dean.

Failure to pass the preliminary oral examination terminates the student’s work at this institution unless the examining committee recommends a re-examination. No re-examination may be given until at least one full semester has elapsed, and only one re-examination is permitted.

**Teaching Assistants**
The requirement to serve as a teaching assistant is at the discretion of the Director of Graduate Programs for the department in which the graduate student’s faculty advisor resides. Students should register for an appropriate section of NTR 685 or 885 to earn credit for and track this activity.

**Candidacy**
A doctoral student is admitted to candidacy upon passing the preliminary examinations without conditions or after fulfilling any conditions specified by the advisory committee.

**Final Oral Defense Examination**
The final oral examination is scheduled (I) after the dissertation is complete except for the necessary revisions after the examination, (2) not sooner than one semester or its equivalent after admission to candidacy, and (3) not before all required course work has been completed or is currently in progress.

The examination consists of the candidate’s defense of the methodology used and the conclusions reached in the research, as reported in the dissertation. It is conducted by an examining committee, which consists of the student’s advisory committee and a Graduate School Representative. This examination is open to the University community. A unanimous vote of approval of the advisory committee is required for passing the final oral defense examination. However, approval may be conditioned on the student’s meeting specific requirements prescribed by the student’s advisory committee. Failure of a student to pass the examination terminates one’s work at this institution unless the advisory committee recommends a reexamination. No reexamination may be given until one full semester has elapsed, and only one re-examination is permitted.

The form for requesting permission to schedule the final oral defense examination is the same as that used for the oral preliminary examination (see above). It must be sent to the Graduate School at least two weeks prior to the proposed examination date. In order for the department to meet this deadline by preparing the request and having it signed by all parties involved (certain minors
requests have to be counter-signed by the Director of Graduate Programs/coordinators of other programs), it is necessary to have the request to schedule the exam to the Graduate Services Coordinator three weeks before the scheduled examination date. The Graduate School will not accommodate departmental requests if this date is not met. This two-week period will begin when all the documents are in order. If a request is received without all documents in order, the request will be returned to the department.

The Department requires Doctoral students to present a final seminar summarizing the dissertation research, either in conjunction with the Final Exam or at a programmatic seminar. If given in conjunction with the Final Exam, the seminar will be open to all faculty, graduate students and guests. Most forms associated with the doctoral degree can be found on the Graduate School Web Page: http://www.ncsu.edu/grad/faculty-and-staff/forms-list.html
Course Requirements Nutrition Minor (PhD)

1. **BCH 553 or 453 – Biochemistry of Gene Expression (3)**
   or
   **BCH 571 – Regulation of Metabolism (3)**
2. At least one course at the 700 level in a department or program other than Nutrition that interfaces with the interdisciplinary field of nutrition. The Minor Representative on the student’s advisory committee must approve the selection of the specific course.
3. **NTR 801 – DR Seminar 1**
4. At least 8 credit hours of NTR courses at the 500 or 700 level.
Helpful Information

Registration

Each graduate student must register each Fall and Spring semester until the degree is granted. Graduate students, who were enrolled spring semester and will be enrolled fall semester, will be allowed to use the library even though they are not registered for Summer Sessions. An additional fee is required for use of the gym and health center. Enrollment in NTR 696 or 896 during the summer term is one way for U.S. students on assistantship to avoid FICA tax withholding and cover the above fees, but summer tuition is not provided by the Graduate Student Support Plan, so you should calculate the relative costs.

NTR 696 and NTR 896 are sometimes used by students who need summer registration for various reasons. Examples are: New students beginning a research project in the Summer 1 term; and U.S. students who wish to avoid deduction of FICA taxes from their stipend during the summer months. Tuition for these one-credit, 10-week courses is lower than for other courses, but they cannot be included in the Plan of Work.

The following caveats and exceptions apply:

1. A student in good academic standing who must interrupt their graduate program for good reason may request a leave of absence from graduate study for a definite period of time, normally not to exceed one year. The student should initiate the request with the Graduate Services Coordinator after consulting the chair of their advisory committee and have the form endorsed by the Director of Graduate Programs before submitting it to the Graduate School. The Graduate School should receive the request at least one month prior to the first day of the term involved.

2. All students who take their final oral examination or submit their thesis or dissertation to the Graduate School during either summer session must be registered for either the first or second summer session.

3. Students who complete all requirements for the degree prior to the first day of the fall or spring semester or the first summer session, may graduate during the next semester or summer session without being registered as long as they were registered in the immediately preceding semester or summer (either session) with at least one credit hour.
4. In order for students to submit their thesis or dissertation to the Graduate School or have their final oral examination after the last day of a semester or summer session but before the first day of the next semester or summer session, they must have been registered with at least one credit hour in the semester or summer session which immediately preceded the date that the thesis or dissertation was submitted or the exam was held.

5. Students whose only remaining requirement for graduation is removal of an “IN” in a course are not required to be registered to remove the “IN” and graduate. However, students who do not remove any remaining IN grade(s) in the semester or summer following the completion of all other requirements and are not registered during the same semester or summer will be terminated at the end of that semester or summer due to non-compliance with the continuous registration policy.

Financial Support and the GSSP (Graduate Student Support Plan)

For the most updated info, please visit: https://grad.ncsu.edu/students/gssp/

ASSISTANTSHIPS – IN-STATE TUITION, TUITION REMISSION AND HEALTH INSURANCE BENEFITS.

Research and teaching assistantships are awarded annually and may be renewed for a total of four semesters for a M.S. and eight semesters for a Ph.D. (10 semesters for a B.S. to Ph.D. plan). In-state tuition and health insurance are paid by the source of the assistantship and non-resident tuition is paid by the college and graduate school as needed and available. Students paid a qualifying assistantship and registered for sufficient hours will receive health insurance beyond the stated number of semesters. Students on assistantship are required to register for nine credits per semester for the first three semesters of an M.S., and the first six semesters of a Ph.D. (eight semesters for Ph.D. students who do not have an M.S.).

Thereafter, registration for three credits per semester is required. Do not register for additional credits not required by your Plan of Work unless you want to pay the tuition for those credits personally. All students must be registered during the semester they graduate (Fall, Spring, Summer 1 or Summer 2), unless the completed thesis or dissertation is submitted to the graduate school prior to the beginning of class for that term.

Stipends are paid biweekly by direct deposit to your designated bank account. Currently registered, full-time students who work on campus less than 30 hours per week are exempt from FICA tax. Any work done in addition to a student’s monthly assistantship requires approval by the student’s DGP, PI, or advisor. Additional jobs can have important effects on tax status and visas for international students. If all on-campus jobs exceed 29 hours per week over a three-month period, you are given the chance to enroll in a more expensive and lower quality health plan. Therefore, this level of employment is prohibited by the graduate school. International students are not permitted to work more than 20 hours per week during academic terms.

Students paid an assistantship from grant funds must complete Conflict-of Interest statements as do other NCSU employees. Affected students will be notified by email from the Sponsored Programs Office (SPARCS). Students not covered by the GSSP Health Insurance or a comparable policy must purchase coverage from the University.
Residency for Tuition Purposes

Residency Determination has been centralized for the state of North Carolina. Applicants and currently enrolled students who are claiming NC Residency or wish to apply for in-state residency for tuition purposes, are required to go through the North Carolina Residency Determination Service (RDS). **NOTE:** *A determination of out-of-state will be given to anyone who has not yet lived in North Carolina for 365 days.*

IF YOU ARE APPLYING TO A GRADUATE PROGRAM AND CLAIM TO BE AN NC RESIDENT

Follow the instructions on the application and complete your residency determination at [ncresidency.org](http://ncresidency.org). Once you have received a validated residency decision from RDS, enter the Residency Determination Number (RCN) into your application. If you are ready to submit your application prior to completing your RDS determination or receiving your RCN number, you will have the opportunity to enter it later through your applicant portal. Entering your RCN after submission will not effect your application, but until it is provided, you will be considered an out-of-state applicant.

UPDATING YOUR RDS DETERMINATION WITH NC STATE

If your RDS decision or expiration date has changed since you originally provided NC State with your Residency Determination Number (RCN) number, you will need to complete the residency form in your applicant portal, or update it through NC State’s self-service residency page: [go.ncsu.edu/residencystatus](http://go.ncsu.edu/residencystatus). Click on the Personal Information tile followed by Residency Information, then enter your RCN in the corresponding box and select “Save RCN” and then “Request Residency Data” **NOTE:** You must have a unity ID to login to access this page.

CURRENT GRADUATE STUDENTS APPLYING FOR RESIDENCY NEXT YEAR

Begin completing your residency acts (outlined below in the Basic Requirements of Residency) about a year before you will be applying for residency. You will need to wait until you have lived in North Carolina for 365 days before applying through the RDS system or you will automatically receive a determination of out-of-state. If you do apply too early, you can log back into your RDS account and Request a Reconsideration once you have met the 365-day requirement.

Any questions and concerns can be directed to: rdsinfo@ncresidency.org, or call 919-835-2290, or 844-319-3640.

The tuition classification laws described here apply to all constituent institutions of the University of North Carolina – Public System and are taken from NC G.S. 116-143 and the North Carolina State Residence Manual.

Safety and Health

NC State is actively working to ensure the safety of our campus. However, safety is a shared responsibility between the campus administrators, faculty, staff and students. Cooperatively, we can maintain a safety environment for research and learning. The campus general emergency information should be reviewed at: [https://www.ncsu.edu/emergency-information/](https://www.ncsu.edu/emergency-information/)

Campus Police and their resources are located at [https://police.ehps.ncsu.edu/](https://police.ehps.ncsu.edu/) and [https://police.ehps.ncsu.edu/resources](https://police.ehps.ncsu.edu/resources) respectively.
A wealth of information regarding workplace and lab safety can be found on the environmental health and safety website [https://ehs.ncsu.edu/](https://ehs.ncsu.edu/).

Outside doors to university buildings should not be propped open when expecting visitors after the doors are locked for the evening or on weekends. When working in labs after regular hours, you should keep the laboratory or office door closed and locked. Laboratories should be locked whenever they are unoccupied. If you encounter unfamiliar visitors in your work area, you may ask if they need assistance. Seek assistance from a coworker if the situation warrants. The NCSU Police department responds to all emergencies phoned to 911 from Campus phones. The campus police department requests calls for non-emergencies go to 919-515-3000.

As soon as you are assigned laboratory or desk space, you should locate and read the laboratory safety plan information for that location. (This is not applicable to MR degree students.) Discuss lab safety issues with the supervisor for the area or a designated technician, checking each topic category on the NC State Safety Orientation Checklist: [https://ehs.ncsu.edu/training/managers-checklist/](https://ehs.ncsu.edu/training/managers-checklist/).

A training matrix within this checklist will help you and your supervisor select the pertinent trainings for your specific program of study. At a minimum, everyone should complete the checklist and hazard communication training.

For employees not involved with laboratory work, use the Hazard Communication for Non-Laboratories – EHPS-OS600. This training covers OSHA Hazard Communication requirements, which are based on the United Nations Globally Harmonized System (GHS) of classifying and labeling chemical products.

Those involved with laboratory work should complete both the Hazard Communication: Chemical Hygiene Plan Training – EHPS-LS104. All NC State personnel who work with or around hazardous chemicals and equipment in research laboratories need to review the Chemical Hygiene Plan (CHP). This document, along with your safety plan, cover CHP elements required by OSHA 29 CFR 1910.1450.

**AND**

Laboratory Chemical Waste Management Training – EHPS-HW101. Any personnel who work in a laboratory are required to complete this training module to be in compliance with Federal and State regulations.

All training is accessed through the Reporter System.

**SOME EXAMPLES OF ADDITIONAL TRAINING THAT YOU MIGHT NEED INCLUDE:**

**Radioactive Material Use Safety – EHPS-RS100**

**Laboratory Biological Safety Training – EHPS-BS201** *(required for those who use recombinant DNA or work at the BSL-1 or BSL-2 containment level)*

**Blood borne Pathogen Awareness Training**

Also, for research involving live vertebrate animals, you are also required to complete a health survey. Immunizations against certain animal-borne diseases are available for work with some species. For the Animal Care and Use policy and the required forms, see [http://www.ncsu.edu/sparcs/iacuc/index.php](http://www.ncsu.edu/sparcs/iacuc/index.php).

For example, the information on Scholarly Research Integrity is covered by the requirement for doctoral students to take a research ethics course, but the links from the website, http://www.ncsu.edu/sparcs/integrity/index.php, can get you started right away on proper collection and management of your research data and prevent possible problems later on.

Record completion of the training sessions by printing email confirmations of training and place in your lab’s safety plan notebook. As you develop new procedures for your research, a description of the procedure and precautions to reduce hazards should be included in the safety plan.

**Equipment and Supplies**

The faculty member with primary custody is responsible for establishing guidelines, safety protocols, procedures, or schedules that should be followed by all users of an instrument. Failure to follow established procedures may result in restrictions on the use of an instrument.

Before using any equipment or supplies from another laboratory, please request permission from the faculty or staff member responsible. When working in someone else’s laboratory, every effort should be made to avoid interfering with residents of that lab and to do a complete job of cleaning up when you are through. We hope that such common courtesy will encourage more interaction between people in various research groups, since this is a very desirable part of the educational process.

**Miscellaneous Information**

**USE OF TELEPHONE**

To place an on-campus call, dial the last five digits of the phone number (3-xxxx, 5-xxxx, etc). Off-campus calls should be dialed as follows: 7-aaa-xxxx-xxxx or 7-1-aaa-xxx-xxxx, where aaa is the area code and 1 is used for long distance calls. Long distance calls for business purposes should be placed station to station (dial 7 + 1 + area code + seven digit number). All personal calls should be kept brief and avoided as much as possible. If you need to place a personal long-distance call, please use your cell phone.

**VACATIONS AND HOLIDAYS**

Graduate research assistants, in their roles as employees of the department, are expected to adhere to the working schedule of academic employees. As half-time employees, their service obligation is 20 hours per week. This time may be devoted to research applicable to their thesis or to other work depending on the conditions of the research funding. In some cases, graduate research and teaching assistants are permitted to engage in other on-campus employment, but in no case should the combined assistantship and other university employment exceed 29 hours per week for US students or 20 hours per week (half-time employment) for international students. Holiday schedules are readily available from advisors or bulletin boards. Research assistants are entitled to two weeks of vacation each year. Vacation should be taken at a time approved by the student’s advisor.
ADVERSE WEATHER CONDITIONS
Closing of the university due to adverse weather conditions will be announced on the radio with a notice from the Chancellor’s office. Notices are also posted on the NCSU home page and telephone system. If offices remain open, students who anticipate transportation problems will be permitted, with advisor’s approval, to take vacation leave in reporting for work or leaving early. Time will be made up at the discretion of the advisor. Work time lost by students due to closing of the university or by voluntary action must be charged to vacation leave or made up.

CHANGING PROGRAMS OR DEGREE OBJECTIVE
Once a student is enrolled in the graduate school, all requests to change curriculum (e.g. Food Science, FS, to Nutrition-Food, NTF), or degree objective (thesis to non-thesis or M.S. to Ph.D.), must be made by the student to the Director of Graduate Programs, who will submit the request with appropriate signatures to the Graduate School. Completion of at least one semester in the original curriculum is necessary before a request to transfer will be accepted. Changes can only be made when the student is in good academic standing.

CONTINUATION ON DOCTORAL PROGRAM
Any master’s degree candidate who wishes to continue in a doctoral program at NCSU should give notice of this intent at least one full semester before completion of the Master of Science program. It is possible to transfer to a doctoral degree objective and be awarded the M.S. degree on the route to a Ph.D.

STATISTICAL CONSULTING SERVICE
The Statistics Department offers free consulting to graduate students and faculty in the College of Agriculture and Life Sciences. Assistance in the design of experiments, methods of data analysis and interpretation of results is available. This service is provided as part of a training program for graduate students in Statistics who do the consulting under the supervision of the faculty. For more information or an appointment, call 919-515-2584.
Graduation Requirements

Official Graduation Periods

There are three official graduations per year for graduate students: at the end of the fall and spring semesters and at the end of the second summer session. Formal commencement exercises are held at the end of the fall and spring semesters, but any student who graduated the preceding second summer session is eligible to participate in the fall commencement exercises. All students scheduled to graduate in the fall or spring semesters are strongly encouraged to attend the respective commencement. Any doctoral candidate wishing to have the degree conferred in absentia must notify the Graduate School in writing; master’s candidates should contact their departments or programs.

Graduation Without Completion

Each semester the Graduate Dean receives requests from students or their families that students be allowed to participate in commencement ceremonies without having completed degree requirements or having met the appropriate deadlines for completion of requirements. The Administrative Board of the Graduate School reaffirms the Graduate School’s regulation that the thesis defense deadline must be observed and all degree requirements met for a student to participate in the University commencement ceremony. (Recommended by the Administrative Board of the Graduate School and approved by the Dean of the Graduate School on 4/13/89)

Completion of Graduate Course of Study

(Approved by the Administrative Board of the Graduate School on 12/11/03)

For students in Ph.D./Ed.D. programs and in master’s programs requiring a thesis, the date of “completion of the course of study” depends upon:

- The date the student submits the thesis or dissertation to the Graduate School;
- The date the student receives thesis or dissertation format approval by the Graduate School; and
- The date that the entire advisory committee has approved the thesis or dissertation.
1. The date of completion of the course of study is Commencement Day for a given semester if:
   a. The student submits the thesis or dissertation to the Graduate School for initial review on or after the first day of classes for a given semester but on or before the semester deadline for submission of theses or dissertations;
   b. The student submits all required formatting revisions to the Graduate School and receives Graduate School format approval on or before the deadline for the same semester; and
   c. The advisory committee approves the thesis or dissertation on or before the last day of classes for the same semester.

   The student must register for the semester, and the degree will be awarded on Commencement Day of the semester.

2. The date of completion of the course of study is the last day of classes in the first summer session if:
   a. The student submits the thesis or dissertation to the Graduate School for initial review on or after the first day of classes for the first summer session;
   b. The student submits all required formatting revisions to the Graduate School and receives Graduate School format approval on or before the deadline for the first summer session; and
   c. The advisory committee approves the thesis or dissertation on or before the last day of classes for the same semester.

   The student must register for the first summer session and the degree will be awarded on the last day of final examinations of the second summer session.

3. The date of completion of the course of study is the last day of classes in the second summer session if:
   a. The student submits the thesis or dissertation to the Graduate School for initial review on or after the first day of classes for the first summer session, but on or before the deadline for submission of theses or dissertations in the second summer session of the same year;
   b. The student submits all required formatting revisions to the Graduate School and receives Graduate School format approval on or before the deadline for the second summer session; and
   c. The advisory committee approves the thesis or dissertation on or before the last day of classes for the same semester.

   The student must register for one of the two summer sessions and the degree will be awarded the last day of final examinations for the second summer session.

   The date of completion of the course of study is the date that the thesis or dissertation is approved by the advisory committee if the student submits the thesis or dissertation to the Graduate School after the deadline for submission of theses or dissertations in a given semester (or summer session), but before the first day of classes of the next semester or first summer session (whichever follows).

   The student is not required to register during the next semester (or summer session) in order to graduate at the end of that semester (or second summer session). However, the student must
be registered when the thesis or dissertation is first submitted to the Graduate School. In cases where the thesis or dissertation is submitted between semesters or between a semester and a summer session, the student must be registered in the immediately preceding semester or summer session. See also the ETD web site and the Graduate Academic Calendar.

Holds on Graduation for Outstanding Degree Requirements

Students who are on the graduation list but have outstanding requirements (incomplete grades, corrections in theses or dissertations, etc.) are put on “hold” for a period of 30 days following graduation. The Director of Graduate Programs (DGP) will be notified of this action. If the student does not satisfy the outstanding requirements within 30 days following graduation, his or her name will be dropped from the graduation list. The student will be put back on the graduation list for the next graduation following completion of the requirements.

If the student does not complete the outstanding requirements during the initial 30-day “hold” period, the semester or session in question will be applied toward the time-to-degree limit. If the time limit for the degree is exceeded before the requirements are met, the student must apply and receive a time extension before being cleared for graduation. (Recommended by the Administrative Board of the Graduate School and approved by the Dean of the Graduate School on 10/22/92.)
University Resources

New Student Survival Guide
https://grad.ncsu.edu/students/survival-guide/

MyPackPortal
MyPackPortal is your one-stop source for information and resources from the NC State community. In MyPackPortal, you will find student and parent resources, academic, financial and human resources information, as well as many other campus services. MyPackPortal is how NCSU students access and manage their university accounts.

Moodle/Wolfware Help
https://wolfware.ncsu.edu/

Computing
https://oit.ncsu.edu/campus-it/

Student Services Center
2831 Thurman Drive
Raleigh, NC
Please park in the Dan Allen Dr. parking deck.
Monday - Friday 8:00 am – 5:00 pm
919-515-7NCSU (6278)
studentservices@ncsu.edu
https://studentservices.ncsu.edu
The Student Services Center walk-in center is located in 2000A Harris Hall (2831 Thurman Drive). All visitors should first check in here, unless seeking Veterans Education Benefits, which is located on the first floor of Harris Hall in suite 1000.

Cashier’s Office
2005 Harris Hall, Campus Box 7213
Raleigh, NC 27695-7213
919-515-1164 fax
919-515-1164 sponsored billing fax

Office of Scholarships and Financial Aid
2016 Harris Hall, Campus Box 7302
Raleigh, NC 27695-7302
919-515-8422 fax FederalSchoolCode: 002972

Military and Veteran Services
100 Witherspoon Student Center
2810 Cates Avenue, Campus Box 7318
Raleigh, NC 27695-7318
ncstatevets@ncsu.edu
919-515-5041

The Counseling Center
2815 Cates Avenue, Campus Box 7312
NC State University
Raleigh, NC 27695-7312
919-515-2423
www.counseling.dasa.ncsu.edu
The Counseling Center provides counseling for students experiencing personal, academic or vocational problems. Disability Services.
Electronic Theses and Dissertations (ETD)
The Electronic Theses and Dissertation website is a one-stop shop for everything graduate students need for submitting final documents electronically. The ETD Guide explains in great detail the Graduate School’s formatting and production requirements, the review and final submission process, with step-by-step instructions and visual examples. https://grad.ncsu.edu/students/etd/

D.H. Hill Library
2 Broughton Drive
Campus Box 7111
Raleigh, NC 27695-7111
919-515-3364
www.lib.ncsu.edu/hill

James B. Hunt, Jr. Library
1070 Partners Way
Raleigh, NC 27606
919-515-7110
www.lib.ncsu.edu/huntlibrary

CALS Academic Programs
2501 Founders Drive
Raleigh, NC 27607
919-515-2614
CALS Career Services prepares students for the job search and connects them with employers seeking well-trained talent.

Pack Essentials
Park Shops, 3rd Floor
101 Current Drive
Campus Box 7301
Raleigh, NC 27695-7301
academic-student-affairs@ncsu.edu
919-515-2446

Childcare
At NC State we believe in the importance of developing a holistic, robust and inclusive child care program for our campus. We strive to support our commitment to family friendly initiatives, develop a strong and diverse child care program for our campus community, and increase the capacity and access to quality child care for all of our faculty, staff and post docs. https://benefits.hr.ncsu.edu/childcare-resources/

Student Ombuds
Here to assist students of the NC State community to resolve problems related to their university working, learning or living experience.
OMbuds.dasa.ncsu.edu
## Core Courses

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<th>COURSE NAME, (UNITS) &amp; PREREQUISITES</th>
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| **NTR 500 – Principles of Human Nutrition (3)**  
*Credit will not be given for both NTR (FS) 400 and NTR 500. Offered in Fall and Summer.* | Overview of fields of Nutritional Sciences; functions of nutrients in the human body; sources and properties of nutrients; relationships of food industry practices to nutrition. |
| **NTR 501 – Advanced Nutrition and Metabolism (3)**  
*Offered in Fall and Summer.* | Overview of fields of Nutritional Sciences; functions of nutrients in the human body; sources and properties of nutrients; relationships of food industry practices to nutrition. |
| **NTR 510 – Maternal and Infant Nutrition (3)**  
*Offered in Spring and Summer.* | Students will explore the current research, controversies, and biological mechanisms related to nutrition for women before, during, and after pregnancy, as well as for infants in utero and after birth. |
| **NTR 515 – Advanced Comparative Nutrition (3)**  
*Offered in Fall, Spring, and Summer.*  
Also listed as: ANS 415  
ANS 515  
PO 415  
PO 515 | Principles of nutrition, including the classification of nutrients and the nutrient requirements of and metabolism by different species for health, growth, maintenance and productive functions. |
| **NTR 521 – Life Cycle Nutrition (3)**  
*Offered in Spring only.* | Principles of nutrition, including the classification of nutrients and the nutrient requirements of and metabolism by different species for health, growth, maintenance and productive functions. |
| **NTR 525 – Feed Manufacturing Technology (3)**  
*Offered in Fall and Spring.* | Feed mill management, feed ingredient purchasing, inventory, storage, and quality evaluation, computerized feed formulation, feeding programs for poultry and swine, feed mill design, equipment, maintenance, operation, safety, state and federal regulations pertaining to feed manufacture. |
| **NTR 550 – Applied Ruminant Nutrition (3)**  
*Offered in Fall only in alternate even years.*  
Also listed as: ANS 550 | Applied concepts in ruminant nutrition for the practicing agricultural professional. Protein, energy, vitamin and mineral nutrition in relation to the nutritional needs and practical feeding of beef cattle, dairy cattle, sheep, and goats. New developments in feeding systems, feed additives and the prevention and treatment of metabolic disorders. Emphasis on solving problems in case studies. Permission given to undergraduates. |
| **NTR 554 – Lactation, Milk & Nutrition (3)**  
*Offered in Spring only in alternate odd years.*  
Also listed as: FS 554 | Metabolism of macro- and micronutrients as affected by exercise and physical activity. Effects of dietary patterns, specific foods, dietary supplements and ergogenic aids on sports performance. Reading and discussion of current literature and individual or group projects. |
| **NTR 594 – Special Topics in Nutrition (1-6)**  
*Offered in Fall, Spring and Summer.* |  |
| **NTR 555 – Exercise Nutrition (3)**  
*Offered in Spring only in alternate odd years.*  
Also listed as: FS 555 | Metabolism of macro- and micronutrients as affected by exercise and physical activity. Effects of dietary patterns, specific foods, dietary supplements and ergogenic aids on sports performance. Reading and discussion of current literature and individual or group projects. |
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| **NTR 557 – Nutraceuticals and Functional Foods (3)**  
Offered in Fall only.  
Also listed as: FS 557 | This course evaluates the weight of evidence from peer-reviewed scientific literature relating food bioactives, whole foods, and diets to disease prevention, athletic performance, and cognitive development/enhancement. Data are viewed in the context of processing effects, global food and supplement regulations, as well as commercial marketing claims. Key concepts include dose-response, signal transduction, and the use of advanced technologies such as genomics, proteomics and metabolomics. Students will work in teams to develop and write a critical review manuscript suitable for publication. |
| **NTR 561 – Equine Nutrition (3)**  
Offered in Spring only in alternate odd years.  
Also listed as: ANS 561 | This course explores concepts in equine nutrition including digestive physiology of horses, nutrient requirements for different classes of horses and feed management. Ration evaluation and balancing, as well as problem solving will be a core component to this course. |
| **600** | |
| **NTR 601 – Master’s Seminar (1)**  
Offered in Fall and Spring. | |
| **NTR 624 – Topical Problems In Nutrition (1-6)**  
Offered in Fall, Spring and Summer. | Analysis of current problems in nutrition. Also entails the scientific appraisal and solution of a selected problem designed to provide training and experience in research. |
| **NTR 625 – Advanced Special Problems In Nutrition (1-6)**  
Offered in Spring only. | Directed research in a specialized phase of nutrition designed to provide experience in research methodology and philosophy. |
| **NTR 685 – Master’s Supervised Teaching (1-3)**  
Offered in Fall and Spring. | Teaching experience under the mentorship of faculty who assist the student in planning for the teaching assignment, observe and provide feedback to the student during the teaching assignment, and evaluate the student upon completion of the assignment. |
| **NTR 690 – Advanced Special Problems In Nutrition (1-6)**  
Offered in Fall only. | Directed research in a specialized phase of nutrition designed to provide experience in research methodology and philosophy. |
| **NTR 693 – Master’s Supervised Research (1-9)**  
Offered in Fall, Spring and Summer. | Instruction in research and research under the mentorship of a member of the Graduate Faculty. |
| **NTR 695 – Master’s Thesis Research (1-9)**  
Offered in Fall, Spring and Summer. | Thesis research. |
| **NTR 696 – Summer Thesis Research (1)**  
Offered in Summer. | For graduate students whose programs of work specify no formal course work during a summer session and who will be devoting full time to thesis research. |
| **NTR 699 – Research in Nutrition (1-9)**  
Offered in Fall, Spring and Summer. | Original research preparatory to the thesis for Master of Science or Doctor of Philosophy degree. |
| **700** | |
| **NTR 701 – Protein and Amino Acid Metabolism (3)**  
Offered in Spring only.  
Also listed as: ANS 701 | Study of protein and amino acid metabolism, regulation, dietary requirements and techniques for their investigation in human and other animals. |
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| NTR 706 – Vitamin Metabolism (3)  
*Offered in Fall only in alternate even years.*  
Also listed as: FM 706 | Principles of nutrition, including the classification of nutrients and the nutrient requirements of and metabolism by different species for health, growth, maintenance and productive functions. |
| NTR 708 – Energy Metabolism (3)  
*Offered in Fall only.* | Relationship of biochemical and physiological events within the cell, tissue, organ and system with the nutrient needs as sources of energy for productive animal life. Digestion, absorption and metabolism of energy sources. Presentation of processes of energy transformations within living structures in relation to energetics, biological oxidations, coupled reactions, anabolic and catabolic systems, metabolic control, partitioning and efficiency. |
| NTR 775 – Mineral Metabolism (3)  
*Offered in Fall only.*  
Also listed as: PO 775 | Requirements, function, distribution, absorption, excretion and toxicity of minerals in humans and domestic animals. Interactions between minerals and other factors affecting mineral metabolism or availability. Emphasis on mechanisms associated with mineral functions and the metabolic bases for the development of signs of deficiency. |
| NTR 785 – Digestion and Metabolism in Ruminants (3)  
*Offered in Spring only in alternate odd years.* | Advanced concepts in ruminant digestion and metabolism, with emphasis on bovine, ovine, and caprine species. Major topics include voluntary intake, ruminal fermentation, mechanisms and rates of digestion, absorption and passage of dietary components, and post-absorptive metabolism of carbohydrates, lipids, and proteins. New developments in feeding systems, feed additives and the prevention and treatment of metabolic disorders. |
| NTR 790 – Advanced Feed Formulation (3)  
*Offered in Fall only in alternate odd years.*  
Also listed as: FM 790 | Principles of feed and ingredient quality assurance and how to develop a comprehensive quality assurance program. The course will include the development of an approved supplier list, ingredient specifications, feed manufacturing quality assurance procedures, and risk based feed safety programs. |
| NTR 794 – Special Topics in Nutrition (1-6)  
*Offered in Fall, Spring and Summer.* | |
| NTR 801 – Doctoral Seminar (1)  
*Offered in Fall and Spring.* | |
| NTR 824 – Topical Problems in Nutrition (1-6)  
*Offered in Fall and Spring.* | Analysis of current problems in nutrition. Also entails the scientific appraisal and solution of a selected problem designed to provide training and experience in research. |
| NTR 825 – Advanced Special Problems in Nutrition (1-6)  
*Offered in Fall only.* | Directed research in a specialized phase of nutrition designed to provide experience in research methodology and philosophy. |
| NTR 885 – Doctoral Supervised Teaching (1-3)  
*Offered in Fall and Spring.* | Teaching experience under the mentorship of faculty who assist the student in planning for the teaching assignment, observe and provide feedback to the student during the teaching assignment, and evaluate the student upon completion of the assignment. |
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| NTR 890 – Doctoral Preliminary Examination (1-9)  
Offered in Fall, Spring and Summer. | For students who are preparing for and taking written and/or oral preliminary exams. |
| NTR 893 – Doctoral Dissertation Research (1-9)  
Offered in Fall, Spring and Summer. | Instruction in research and research under the mentorship of a member of the Graduate Faculty. |
| NTR 895 – Doctoral Dissertation Research (1-9)  
Offered in Fall, Spring and Summer. | Dissertation research. |
| NTR 896 – Summer Dissertation Research (1)  
Offered in Summer. | For graduate students whose programs of work specify no formal course work during a summer session and who will be devoting full time to thesis research. |
| NTR 899 – Doctoral Dissertation Preparation (1-9)  
Offered in Fall, Spring and Summer. | For students who have completed all credit hour, full-time enrollment, preliminary examination, and residency requirements for the doctoral degree, and are writing and defending their dissertations. |