

# PhD Program Requirements

## Introduction

The Department of Nutritional Sciences at the University of Arizona (UA) offers both Master of Science (MS) and Doctor of Philosophy (PhD) degrees in Nutritional Science. Regardless of your interests, experience, or background the program requirements for your degree will be similar to other students in the program. In the next several pages we have outlined these requirements.

Successful students will visit this document regularly to assure they are meeting required "markers" along the way. Questions you may have can be directed to [Nancy Driscoll](#), Coordinator of the Nutritional Sciences Graduate Program (NSGP), [Dr. Richard Simpson](#), Chair of the NSGP and/or once established your Advisor and Advisory Committee Members.

## Doctor of Philosophy Program Considerations

You may have been admitted with one or more course deficiencies; these deficiencies should be completed as soon as possible, preferably during the first semester in the program. The Coordinator and Chairs of the NSGP, with the support of the Graduate Executive Committee will assist you with selection of courses for the first semester that you are enrolled in the program. Once you have selected an Advisor, the Advisor will support you in selecting coursework through the remainder of your degree program

It is the goal of the NSGP that students entering with no or only one course deficiency will complete their PhD degree within 4-6 years after entering the program. To accomplish this, new PhD students must specify a laboratory for their dissertation research by the end of their second semester in the program (20 May).

With the guidance of your Advisor you must select an Advisory Committee to guide your dissertation research. The NSGP requires a minimum of four members, three must be UA tenured, tenure-track, or approved as equivalent and three must approve the dissertation. There may be one dissenting vote.

The fourth member may be tenured or tenure-track, or a special approved member. Special members must be pre-approved by the Dean of the Graduate College. Any members beyond the fourth can also be tenured or tenure-track, or special approved members. All dissertation committee members are expected to attend the final defense.

An approved Plan of Study must be completed by the end of the third semester (1 January). Failure to meet the deadlines of laboratory selection, Advisory Committee selection or Plan of Study approval will be deemed lack of progress and can result in a loss of funding or a written reproach.

All students should refer to the [Graduate College website](#) and/or The Department of Nutritional Sciences website for forms and rules and policies. Graduate College policies are the final authority in the event of any conflicts. It is each student's individual responsibility to familiarize themselves with the Graduate College policies.

### **Coursework and Mentoring**

You may have been admitted with one or more course deficiencies; these deficiencies should be completed as soon as possible, preferably during the first semester in the program. The Coordinator and Chair of the NSGP, with the support of the Graduate Program Executive Committee will assist you with selection of courses for the first semester that you are enrolled in the program.

Once you have selected an Advisor, the Advisor will support you in selecting coursework through the remainder of your degree program.

### **Required Courses**

1. NSC 501, Statistics for Applied Nutritional Sciences I (1 unit)
2. NSC 502, Statistics for Applied Nutritional Sciences II I (1 unit)
3. NSC 503, Statistics for Applied Nutritional Sciences III (1 unit)
4. NSC561, Communicating Nutrition and Health (1 unit) – must take 2 times
5. NSC 595, Emerging Topics in Nutritional Sciences (1 unit) – must take 2 times
6. NSC 608, Metabolism and Energetics (3 units)
7. NSC 610, Nutrition and Disease (3 units)
8. NSC 624, Micronutrients (3 units)
9. NSC 675, Advanced Nutrigenomics (3 units)
10. NSC 699 Laboratory Rotation (3 units)
11. Seminar in Department other than Nutritional Sciences (1 unit) – must take 2
12. NSC 920 Dissertation (18 units)

Total Required Units = 23 + 18 Dissertation Units

13. Electives, remaining units needed to fulfill Graduate College requirements of 63 total units. (maximum of 3 units of house-numbered courses in your elective units)\*

\*\*University-wide house-numbered courses comprise two categories of courses using alternative teaching formats: (1) courses offered in small group settings, and (2) courses taught on an individual basis. An example of a university wide house-numbered course would be 695 or 699.

A typical course schedule for the first semester of a first year M.S. student starting on an even year may be similar to the following:

1. NSC 608 3 units---this course is offered every year and should be included for most students.

2. NSC 610 3 units---this course is offered every other year and should be included for most student.
3. NSC 699 3 units---rotations must be completed by students to identify a research laboratory for their M.S. project.
4. NSC 501 1 unit – 1st 7 weeks
5. NSC 502 1 unit – 2<sup>nd</sup> 7 weeks

A typical course schedule for the first semester of a first year M.S. student starting on an odd year may be similar to the following:

1. NSC 624 3 units---this course is offered every year and should be included for most students.
2. NSC 675 3 units -- this course is offered every other year and should be included for most student.
3. NSC 699 3 units -- -rotations must be completed by students to identify a research laboratory for their M.S. project.
4. NSC 501 1 unit – 1st 7 weeks
5. NSC 502 1 unit – 2<sup>nd</sup> 7 weeks

Students funded on an assistantship through the College of Agriculture and Life Sciences are required to enroll in 10 course units per semester.

It is highly recommended that all students take a course in ethics before graduating. Two possible ethics courses are listed below

1. MCB 695E, Science, Society, and Ethics, Spring
2. SLHS 649, Survival Skills for Scientists, Spring

If you have decided on an Advisor then they will advise you regarding the selection of courses for the remaining semesters, bearing in mind that you must meet the coursework requirements of the NSGP and the Graduate College. The Coordinator and Chair of the NSGP can advise you on your second semester courses. It is the student's responsibility to know exactly which courses and the total number of units they are registered for each semester.

It is very important that students select an Advisor as soon as possible in their program and then together with their Advisor select a graduate Advisory Committee. The student's research program cannot be planned before selecting an Advisor, and not having a designated research project will delay your graduation.

A recommended procedure is for the student, with advice from his/her Advisor, to identify an appropriate project, prepare a 1-2-page summary/outline of the research methods and to schedule a committee meeting to discuss the proposed research and obtain approval. This should be done before the preliminary examination for PhD students.

### **Laboratory Rotations**

Laboratory rotations are a valuable experience for students. They provide an opportunity for the student to learn new techniques, to be exposed to different approaches to nutrition research and to meet faculty and students in the program. Hence, the rotation experience should be taken seriously, and students should immerse themselves in each rotation and maximize the amount of time they spend in each laboratory and with the people in it, including evenings and weekends as appropriate.

All incoming PhD. students must select research laboratories to rotate through during their first semester. M.S. students must rotate through two research laboratories. Rotations are generally for a period of 7-8 weeks. Students can select a laboratory from any of the tenure-track departmental or [joint appointed faculty](#) in the NSGP.

If necessary, the Chairs and Coordinator of the NSGP can assist students in selection of their first rotation, but students should familiarize themselves with all available faculty so they can select a laboratory for their rotations. The laboratory for the first rotation will be chosen before the start of the semester or no later than the second week of the semester; the laboratory for the second rotation should be chosen by the second Friday in September. It is the student's responsibility to contact the laboratories in which they wish to rotate. Keep in mind that some laboratories may be fully committed and unable to accommodate a rotation student, so start your selection process early. Professors are very busy so contact may need to be done by email or by directly going to the laboratory to set up a meeting with the professor. The Chair and Coordinator of the NSGP will ask for an update on progress toward selecting your rotations by July 1<sup>st</sup> of the year you begin the program.

Course credits are awarded for laboratory rotations. Students completing a rotation will enroll in 3 units of N SC 699 under Dr. Richard Simpson, Chair of the NSGP for the semester that they are completing their research laboratory rotations.

Students are expected to spend a minimum of 9 hours/week (1 unit=3 hours) in the laboratory in which they are doing their rotation. There are no maximum allowable hours for lab rotation but rather it is at the discretion of faculty and the individual student in order to assure an ample and optimal learning experience.

### **Mentor Student Match Meeting**

You will meet with the Chair and Coordinator of the NSGP and your mentor (research advisor) once a selection has been made. Typically, this meeting will be held in the beginning of the second semester however PhD students may have their meeting later if selection has not yet been made (mid to end of second semester). This meeting is an opportunity to discuss aspects essential to moving forward in the graduate program and will include salary, supplemental income from winter/summer teaching assistantship responsibilities, selection of an advisory committee, and important aspects related to your research such as time allotment, seminar presentations, attendance at conferences and the importance of communication. We will outline expectations related to the Semester Progress Reports and Annual Evaluations along with graduation requirements. PhD students will also discuss the preliminary exam format and fellowship submission guidelines. This meeting is a time to ask questions and to make sure you and your mentor understand important aspects of moving toward degree completion.

## **Graduate Student Progress Report**

At the end of each semester graduate students will document their progress toward degree completion. All students are required to submit this biannual progress report by starting/updating a Graduate Student Progress Report form. Advisor's review student's reports to help make an assessment of student progress toward degree completion. The Progress Report must be submitted to the student's advisor 10 days after the end of each semester. An electronic copy must also be submitted to the NSGP Coordinator and a copy should be brought to the end of the semester meeting to discuss with the Coordinator and Chair. A copy of the policy along with the Graduate Student Progress Report form is posted on the [Graduate Program Forms page](#).

## **Graduate Student Annual Review**

The purpose of the Graduate Student Annual Review is to promote optimal student performance. By assessing in a systematic way evaluations provide a basis for accountability. Annual reviews are expected to give an accurate analysis of successes and to identify areas for improvement. Annual reviews will help to identify an individual student's performance in training, to provide constructive feedback on performance and to support the highest standard of performance. Every graduate student will be evaluated on a yearly basis.

The annual review will be completed by the student's Major Advisor and the student. If a Major Advisor has not been identified the Chair of the NSGP will evaluate the student. The annual review should be completed by the end of the spring semester of every academic year or by May 20th. The Graduate Student Progress Report should be provided to the Major Advisor 2 weeks before the review meeting. The Graduate Student Annual Review form is available on the department website under graduate forms. In addition to completing the written review form the major advisor should schedule a meeting with the student to review the written review. At the end of the meeting this written review must be signed by the student and the major Advisor and submitted to the NSGP Coordinator.

The Graduate Student Progress Report and the Graduate Student Annual Review Form will be maintained in the student's records in the office of the NSGP Coordinator. These annual reviews may be shared with the student's advisory committee, the NSGP Coordinator, the Department Head and the Graduate College Dean's office.

## **Plan of Study**

The Plan of Study is the document used by the UA Graduate College to track student course work and progress to a degree. All M.S. students must have a Plan of Study on record by the end of their first year (30 June). The Plan of Study identifies:

1. Courses the student intends to transfer from other institutions

2. Courses already completed at UA which the student intends to apply toward the graduate degree
3. Additional course work to be completed to fulfill degree requirements

The Plan of Study must have the approval of the student's Advisor and the Chair of NSGP before it is submitted to the Graduate College. The Plan of Study form can be found under forms on the "[GradPath](#)" through the [UAccessStudent](#).

Each student should fill out the Plan of Study form and email the Coordinator of the NSGP to let her know she can review the document. The NSGP Coordinator will review the form to make sure all Nutritional Sciences Department and Graduate College requirements are being met and will let the student know that they can submit the form for approval

If you are unsure as to how to complete the Plan of Study, please make an appointment with the Coordinator of the NSGP for guidance.

### **Semester Meetings**

Graduate Students will meet with the Coordinator and Chair of the NSGP at the end of each semester to review their progress toward degree, discuss any concerns, ask questions and have the opportunity to provide feedback on their experience in the program. First semester graduate students will also meet approximately 8 weeks after the start of their first semester. The Coordinator of the NSGP will schedule these meetings and email students with notification of date/time and place of the meeting. The Graduate Student Progress Report should be brought to the end of the semester meeting.

### **Completion of Doctor of Philosophy Requirements**

#### **Submit a fellowship grant**

**Purpose:** It is crucially important for the training of graduate students to learn to write a research proposal. In addition, students should learn the process of submitting a grant and all the steps involved (e.g. writing a budget and getting university approval). The Graduate Executive Committee has decided the most effective way to teach this skill is to require PhD students (starting with the class that entered Fall 2012) to submit a fellowship application. It should be noted that this is a fellowship that offsets the salary paid by the department or PI and applications for scholarships would not satisfy this requirement.

Format: The Graduate College website has information regarding funding opportunities including UA funding sources, federal and state resources and a number of fellowships, which are available. Foundations often provide funding opportunities for graduate education. A mentoring and execution plan are listed on the NSGP website under forms. The fellowship should be submitted prior to completing the comprehensive exam.

### **Comprehensive Exam Guidelines**

Ph.D. students must pass a Doctoral Comprehensive Examination before being formally admitted to candidacy for the Ph.D. degree. The examination consists of a written section and an oral section. The GEC recommends taking the Comprehensive Examination by the end of the 5th semester and no later than the 7th semester. Requests to take the comprehensive examination past the 7th semester must be made in writing (petition) to the Graduate Executive Committee and receive approval prior to scheduling. The written and oral sections of the Comprehensive Examination must take place at least six months prior to the Final Oral Defense Examination.

**Purpose:** The purpose of the Comprehensive Examination is for the student to demonstrate competency in the core NSC curriculum and the identified competencies of the chosen minor. Using the ASN report as a guide, the Graduate Curriculum Committee created a list describing the breadth of knowledge we expect students within the graduate training in Nutritional Sciences to acquire and the corresponding course that covers this information. In addition, this exam assesses the student's analytic ability, creativity, and potential for successful completion of the PhD program in Nutritional Sciences.

**Committee:** The Comprehensive Examination Committee must consist of a minimum of four members. The Advisor and two additional members must be tenured, or tenure-track, or a special approved member. Special members must be pre-approved by the Dean of the Graduate College. Any members beyond the fourth can also be tenured or tenure-track, or a special approved member. A chair of the committee must be chosen from the group and the advisor is not required to serve as chair.

**Format:** Committee members will write a total of eight questions. For each writing session, the student will be presented with two of the written questions and will select one of the questions for a written response. This is repeated for the next three writing sessions, which are to occur over two consecutive days. The student will have three hours to write their answer for each question and this will be conducted as a closed book session.

The Oral section of the Comprehensive Examination cannot exceed 3 hours. The oral section of the examination can involve follow-up questions from the written exam, general questions on the classes/seminars that the student has included on his/her Plan of Study, recent literature in the student's field, and questioning from the chosen minor area of study.

**Evaluation:** Committee members will create a rubric of scoring for their own question. A pass or fail grade is given for each question and at least two questions must be passed in order to progress to the oral section. Faculty members may provide feedback to the student based on their written responses prior to the oral session. The oral session may be used to ask the unanswered questions and/or may focus on follow-up to the answered question. Students should be evaluated on accuracy of information provided and any gaps in knowledge.

**Scheduling:** The student should meet with their committee two months prior to the comprehensive examination and plan a tentative date for the oral examination. At this time, the committee members should discuss general areas from which questions will be drawn and the person responsible for writing the questions for each area. The student is allowed to talk to each committee member to discuss the general topic area from which the questions will be drawn. The

written examination should be scheduled three weeks prior to the oral examination. Committee members will have one week to grade the written examination and the committee chair will notify the student of the result.

### **Next steps after results:**

### **Failure of the Comprehensive Examination**

1. Students will be allowed to retake the oral section of the examination one time if performance on the initial examination is unsatisfactory. If a second oral examination is necessary, the exam should be ideally re-scheduled within 3 months of the first examination. Students will either pass or fail the second examination (i.e., the oral examination cannot be taken three times).
2. Failure of the Comprehensive Examination on the second attempt will result in dismissal from the NSC Doctorate Program. With Advisor and Advisory Committee approval candidates failing the exam can be considered for a M.S. degree.

### **Passing the Comprehensive Examination**

1. At the time the student passes the Comprehensive Examination his/her bursar account will be billed the fee for candidacy, dissertation processing, and archiving. This is a one-time fee and you will not be billed again if you change your anticipated graduation date.
2. When the student has an approved doctoral Plan of Study on file, has satisfied all course work and passed the written and oral portions of the Comprehensive Examination, he or she must file a Committee Appointment form through GradPath on UAccess. This form must be submitted as soon as requirements are met but no later than six months before the Final Oral Defense Examination is scheduled. Deadlines for the submission of paperwork pertaining to doctoral programs are available online at [Deadlines for Completion of Degree Requirements](#).

### **Completion of Ph.D. Requirements**

The NSGP requires all Ph.D. students write a dissertation, present a seminar of their research findings and complete a Final Oral Defense Examination administered by a student's Ph.D. Advisory Committee prior to graduation. The dissertation must meet required standards of scholarship and demonstrate the candidate's ability to conduct original research. It is anticipated that students will submit at least two manuscripts for publication during their doctoral study program. These manuscripts are generally a result of dissertation-specific research.

Research involving human subjects or vertebrate animals, requires permission from the relevant UA committee. Consult your Advisor and the Office for [Responsible Conduct of Research](#) (RCR) for details. The RCR Office telephone number is 520-626-5515. You must have Human Subjects approval in your own name; your project is not covered under your Advisor's approval. Research activities involving the use of human subjects require the review and approval of the [University Human Subjects Committee](#).

Any research involving vertebrate animals must be approved by the [Institutional Animal Care and Use Committee](#) (IACUC). The student must be listed on an approved IACUC protocol before they begin their animal research.

Upon the completion of the dissertation, the candidate is to submit to a Final Oral Defense Examination. A student must be in good academic standing to schedule the defense. The examination focuses on the dissertation itself but can include general questioning related to the field(s) of study within the scope of the dissertation.

The exact time and place of this examination must be scheduled with the Graduate Degree Certification Office at least 7 working days in advance, and announced publicly in *Lo Que Pasa* at least one week in advance. Final Oral Examinations should be scheduled during days when the university is in session and during normal business hours. You may contact [Alma Verdugo](#) to reserve a room for your defense examination. Announcement of Final Defense - *must be submitted and approved at least one week before the date of defense* through GradPath.

The dissertation Advisor presides over the Final Oral Defense Examination. The examination is closed to the public, except for the initial seminar portion during which the student presents the dissertation and entertains questions. There is no minimum time limit for the Final Oral Defense Examination, but the entire proceedings may not exceed three hours. Members of the Advisory Committee must be present for the entire examination.

If the Committee requires revisions, those must be done in a timely manner, not to exceed one year. If the revisions are not completed by the dissertation submission deadline for the term when the student defends, the student will be required to register for the next semester and will graduate in the semester when the revisions are complete and approved. If revisions are not done by the end of the time to degree period, the student will have to re-take the comprehensive examination to demonstrate currency of knowledge.

### **Submission of the Dissertation**

Upon successful completion of the Final Oral Defense examination, and having gained final approval from the dissertation committee after completing any revisions needed following the defense, the candidate submits the dissertation electronically via the [submission website maintained by ProQuest/UMI](#). **This submission must be made by the [submission deadline](#)** for the desired graduation term. The Graduate College will check the formatting of the submitted dissertation and may request changes before accepting the submission. When the dissertation has been accepted by the Graduate College, [completion of requirements](#) has been fulfilled, and all other [final items](#) are accounted for, the degree will be awarded provided the degree conferral date for the graduation term has been reached. Please refer to the [Academic Calendar](#) for the relevant semester for the conferral date.

### **The Format Check Process**

The dissertation acceptance process consists of the steps outlined below, done after you have defended your dissertation and you have final approval from your committee. It consists of two

parts; an auditing of your PDF file to verify that it meets archiving standards as listed in step 1, and the collection of documentation as listed in steps 2 through 5.

1. Please refer to the Doctoral Dissertation Formatting Guide at <http://grad.arizona.edu/degrecert/manuals> for help on formatting your dissertation.
2. Your format check begins once you submit your dissertation to [UMI Electronic Submissions Site](#). Your dissertation will be audited against this manual so if you follow the instructions carefully you will have minimal edits to make after we review it. If your dissertation includes published papers or papers accepted for publication, you must use an alternate format.
3. Use the sample at <http://grad.arizona.edu/degrecert/samples-templates> to prepare your Approval Page.
4. Please submit the 'Survey of Earned Doctorates' online survey. You can do this by going to [sed.norc.org/survey](http://sed.norc.org/survey). Please complete the survey online.