



College of Medicine

*Department of Pharmacology
and Nutritional Sciences*

Handbook:

Ph.D. Program in Nutritional Sciences

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This handbook is a guide for students of the Ph.D. program in Nutritional Sciences, their academic advisors and other faculty members. The handbook provides an overview of the requirements and processes, degree and curriculum requirements, references and links to forms that need to be completed, Graduate School resources and other valuable information. For additional information, please consult the department's website: <https://medicine.uky.edu/departments/pharmns/phd-program>

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Welcome New Graduate Students

The Division of Nutritional Sciences hopes your graduate years will be enjoyable and rewarding, and also challenging and successful. The information herein is intended to serve as a guide for your matriculation through our graduate program. Students should familiarize themselves with the information provided herein, and with that described in the [Graduate School Bulletin](#).

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Mission

The PhD program in Nutritional Sciences is an interdisciplinary program that provides high-quality educational training and research experience across a wide spectrum of nutrition-related subjects. The program's mission is to train highly skilled nutritional scientists equipped to tackle critical nutrition-related disease and health issues and pursue promising careers in academic, industrial, governmental, and professional environments in the rapidly expanding field of nutritional sciences.

Program Overview

The PhD Program in Nutritional Sciences was established in 1989 to provide an opportunity for advanced multidisciplinary graduate studies in nutrition. Nutritional Sciences became a Graduate Center in 2000, and in 2014 merged with the Department of Pharmacology and became a Division within the Department of Pharmacology and Nutritional Sciences. Through its Ph.D. and Masters' of Science programs, the Division of Nutritional Sciences enables students to explore the interrelationship between environmental factors and nutrients and their effect on biochemistry, physiology and disease development. Students have access to faculty expertise across 28 departments and divisions within the University's Colleges of Medicine, Pharmacy, Health Sciences, Nursing, Agriculture, Arts and Sciences, and Education. Administratively, the graduate program is housed in the Department of Pharmacology and Nutritional Sciences in the College of Medicine.

One of the primary areas of research and training targets nutrition and chronic diseases, with a focus on obesity and associated disorders of cardiovascular disease, diabetes and cancer. Other areas of specialty include nutrition and oxidative stress, clinical nutrition and animal nutrition.

More than 60 faculty members housed in 6 different colleges provide teaching and individualized research guidance for graduate students in academic units including Animal Sciences; Biochemistry; Clinical Sciences; Dietetics and Human Nutrition; Horticulture and Landscape Architecture; Internal Medicine; Kinesiology and Health Promotion; Microbiology and Immunology; Neurology; Neuroscience; Nursing; Pharmacology and Nutritional Sciences; Pharmaceutical Sciences; Physiology; Plant Sciences; Surgery; and Toxicology and Cancer Biology.

Research Opportunities and Resources

Approximately 36,000 square feet of laboratory space have been dedicated to Nutritional Sciences. This research space houses state-of-the-art equipment for cell culture, human and animal studies using state-of-the-art trace mineral, vitamin, lipid, amino acid, hormone, enzyme, stable and radioactive isotope, microcirculatory, energy assessment, electrophoresis and molecular biology technologies. The University of Kentucky has in place multiple core facilities, among them a microarray facility as well as cores for electron microscopy, confocal microscopy, flow cytometry, metabolomics, and magnetic resonance imaging.

Clinical research facilities for training and research, all within walking distance of each other, include the Center for Clinical and Translational Science, the University of Kentucky Hospital, the Veterans Administration Hospital, Sanders-Brown Center on Aging, the Gill Heart Institute, the University of Kentucky Medical Center Outpatient Clinics, and the Markey Cancer Center. Both the UK Medical Center and the VA Medical Center have clinical research units with ongoing nutritional studies. Opportunities for community-based research exist locally, throughout the state and in international settings.

ADMISSIONS

There are two ways to be admitted into the Nutritional Sciences PhD Program:

1. Through the Integrated Biomedical Sciences Program (IBS)

The IBS program is composed of first year biomedical graduate students in the College of Medicine, University of Kentucky. Participating departments and centers include Neuroscience; Microbiology, Immunology & Molecular Genetics; Pharmacology & Nutritional Sciences; Molecular & Cellular Biochemistry; Toxicology & Cancer Biology; and Physiology. The IBS Program consists of both coursework and laboratory rotations completed during the first year of graduate school. All IBS students perform four laboratory rotations (two per semester) among any of the participating departments. The purpose of the rotations is for the student to gain experience in a working scientific lab and to find a faculty member who will serve as a Dissertation Advisor. Selection of a Dissertation Advisor is a mutual decision of the student and faculty member and is made by the end of the spring semester.

Detailed information about applying to the IBS program can be obtained at:

<https://www.uky.edu/academics/doctoral/college-medicine/integrated-biomedical-sciences-graduate> or by directly contacting the IBS program by e-mail: obe@uky.edu.

2. Through Direct Admission into the Nutritional Sciences Doctoral Program

Applicants must meet the following requirements for admission to the University of Kentucky Graduate School and the Graduate Program in Nutritional Sciences:

1. A baccalaureate degree from a fully accredited institution of higher learning.
2. An M.S. degree with a Grade Point Average (GPA) of 3.2 or above on a 4.0 scale, or a B.S. degree with a GPA of 3.0 or above on a 4.0 scale.
3. For international applicants, a minimum score of 550 out 667 maximum possible is required on the paper-based Test of English as a Foreign Language (TOEFL), a minimum 213 score on the computer-based TOEFL (maximum 300), or 79 on the internet-based TOEFL. The minimum International English Language Testing Service (IELTS) score is 6.5. All applicants must demonstrate proficiency in verbal and written English.

APPLICATION INFORMATION

All those interested in graduate study at the University of Kentucky Graduate School must apply online at <https://gradschool.uky.edu/apply>. There is a \$65 application fee for domestic applicants and a \$75 application fee for international applicants. Please note that the application cannot be submitted without paying this fee.

The following information must be submitted online to the Graduate School:

1. **Transcripts** from all higher education institutions attended. The Graduate School requires an overall undergraduate grade point average of 2.75, and 3.00 on all graduate work.
2. **TOEFL or IELTS** scores are required for all applications whose native language is not English.
 - TOEFL scores should be sent directly from ETS; the Institutional Code for the TOEFL for the UK Graduate School is 1837.
 - IELTS scores should be sent directly from the IELTS, specifying the University of Kentucky Graduate School, Lexington, KY as the recipient institution.
3. Curriculum vitae
4. A brief essay, no longer than two single-spaced pages, describing long-term career goals and how the Ph.D. Program in Nutritional Sciences would advance these goals.
5. Three letters of recommendation
6. Completed [Research Assistant Application Form](#).

Application Deadlines

Application deadlines for Graduate School admission are listed below. The program may start the review of applications before these deadlines, however.

<u>Student Type</u>	<u>Fall Admission</u>	<u>Spring Admission</u>
<u>Domestic</u>	No later than one month prior to the start of the term the applicant intends to begin graduate work.	
<u>International</u>	April 15	September 15

State Residency Requirements

The University of Kentucky and all other state-supported institutions of higher education assess tuition fees based on Kentucky or non-Kentucky residency. The Commonwealth of Kentucky Council on Post-Secondary Education establishes the policy determining residency. Students with residency questions should contact the Registrar's Office in the Funkhouser Building.

THE NUTRITIONAL SCIENCES CURRICULUM

Nutritional Sciences students follow the curriculum described below. Students with extensive prior training in nutrition may petition the Graduate Committee to evaluate modification of the curriculum. Note that graduate students must register for a minimum of 9 hours per semester to remain a full-time student until they pass their qualifying exam.

Some courses are cross-listed with other units and departments. Students should always register under the prefix of the primary instructor's department.

CORE CURRICULUM FOR PHD PROGRAM IN NUTRITIONAL SCIENCES

NS 601	Integrated Nutritional Sciences Part I	(3)
NS 602	Integrated Nutritional Sciences Part II	(3)
CNU/NS 603	Integrated Nutritional Sciences Part III	(2)
CNU/NS 609	Ethics in Clinical Sciences Research	(1)
or TOX 600	Ethics in Scientific Research	(1)
or PHS 711	Responsible Conduct of Research	(2)
NS704	Current Topics in Nutritional Sciences	(1)
NS 771	Seminar in Nutritional Sciences**	(1+)**
IBS 611	Practical Statistics	(2)
or STA 570	Basic Statistical Analysis	
	(3)	
IBS 601/BCH 607	Biomolecules & Metabolism	(3)
IBS 602	Molecular Biology & Genetics	(3)
IBS 606	Physiological Communications	(3)
or PGY 412G	Principles of Human Physiology	(4)
or PGY 502	Principles of Systems, Cellular &Molecular Physiology	(5)

Two or more credit hours of elective courses that are recommended by the student's advisor and approved by the advisory committee. Electives include the following courses:

IBS 603	Cell Biology & Cell Signaling	(3)
NS 550	Drug and Nutrient Interactions	(2)
NS 606	Molecular Biology Applications in Nutrition	(2)
NS 689	Nutrition and Chronic Diseases	(3)
CNU 501	Nutraceuticals and Functional Foods	(2)
CNU 502	Obesity C2C: Cell to Community	(2)
CNU 605	Advanced Sports Nutrition	(3)
Additional Electives		(7-12)
Total Credits		36

**Students are to register in NS 771 for 1 credit every semester after entering the program, until the semester that they take the qualifying exam.

****All Ph.D. students must present 1 seminar prior to their qualifying exam and register for one credit in NS 771 in semesters before the qualifying exams. In the semester that the qualifying exam is taken and in semesters following the qualifying exam, students must register for NS 771 for 0 credit hours. In addition, all doctoral candidates will present a seminar once/year post-qualifying exam and enroll in NS 771 for 0 credits.**

Core Courses

NS 601 **Integrated Nutritional Sciences I** **3 credits**
The material covered in CNU/NS 601 consists of three major emphasis areas: (1) review of carbohydrate, lipid, and protein structure, synthesis, absorption, and metabolism, (2) the impact of nutritional influences on macronutrient metabolism to health and disease, (3) the influence of macronutrient metabolism on the regulation of energy balance.

NS 602 **Integrated Nutritional Sciences II** **3 credits**
Integrated study of the properties, metabolism, biochemical and physiological functions and interactions of vitamins and minerals, and their relationships to chronic diseases, deficiency symptoms and toxicity.

CNU/NS 603 **Integrated Nutritional Sciences III** **2 credits**
Working knowledge of dietary requirements and guidelines, nutritional assessment, food safety issues and nutritional requirements through the lifecycle. This is a web-based course.

NS 771 **Graduate Seminar in Nutritional Sciences** **0-1 credit****
Seminars by students, postdoctoral fellows and faculty both internal and external to the University in areas of nutritional sciences

NS 704 **Current Topics in Nutrition** **1 credit**
This course is designed to develop the student's independent thinking and critical analysis related to various nutritional sciences issues. These skills will be developed through reading assignments and group discussion related to current topics in nutrition.

CNU/NS 609 **Ethics in Scientific Clinical Research** **1 credit**
Students will examine ethical issues in biomedical research using a case-study approach. Representative issues addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, scientific misconduct, and informed consent.

TOX 600 **Ethics in Scientific Research** **1 credit**
The course will commence with an overview of good laboratory practices and present them as the basis of good scientific research, along with an overview of quality assurance and appropriate practices in data analysis and data interpretation. The course will then move to the ethics of human and animal experimentation and discuss the concepts of data and intellectual property, their ownership and access to them. The problems of reviewing other workers' intellectual property such as grant applications; research papers and other intellectual property will be addressed.

PHS 711 **Responsible Conduct of Research** **2 credits**
Research scientists require an understanding of the fundamental principles guiding the ethical and responsible conduct and reporting of their research. Through case studies and reviews of the current literature, students will gain a greater understanding of the ethical and regulatory considerations in research design, conduct, and publication as well as the regulatory landscape governing fiscal

compliance, scientific misconduct, research involving vulnerable populations, tissue banking, genetics/genomics, intellectual property, privacy, and data security. The importance of inclusion and diversity of individuals from underrepresented groups, those with disabilities, and individuals from economically disadvantaged backgrounds as investigators is also discussed. Students engage in didactic lectures, small-group breakout discussion sessions, and out of class learning activities to facilitate in-depth training and greater understanding of the relevant issues.

STA 570**Basic Statistical Analysis****3 credits**

Introduction to methods in biological, behavioral and social sciences data analyzing, surveys, the role of statistics in research, statistical concepts and models, probability and distribution functions, estimation, hypothesis testing, regression and correlation, analysis of single and multiple classification models.

IBS 611**Practical Statistics****2 credits**

Practical Statistics will introduce students to basic statistical concepts and applications that are used in a majority of biomedical and translational research studies. The emphasis will be on “how” and “why” certain basic statistical applications are used rather than the theory behind various statistical methods. Students will cover materials using didactic lectures, examples of data from the primary literature, and homework problems.

IBS 601/BCH 607**Biomolecules & Metabolism****3 credits**

Introductory biochemistry course designed to provide a basic knowledge of molecular and biochemical principles necessary for advanced graduate study. Protein structure and function, enzyme catalysis, the generation and storage of metabolic energy, amino acid, nucleotide, and lipid metabolism and biological membranes and transport.

IBS 602**Molecular Biology and Genetics****3 credits**

Introductory biochemistry course focused on the cellular mechanisms that underlie the regulated expression of genes, including transcription and translation, as well as basic mechanisms of DNA replication/repair and recombination. Genetic engineering and other experimental approaches critical to molecular biology research will be reviewed.

IBS 603**Cell Biology and Cell Signaling****3 credits**

Introduction to cell biology and signaling focused on cell types and architecture, membrane structure, cytoskeletons, mitochondria, cellular mechanisms of development, cell division, cell cycle, apoptosis and prokaryotic cell biology and modulation by bacterial pathogens.

IBS 606**Physiological Communications****3 credits**

The function of the mammalian organism from a perspective ranging from the cellular/subcellular to the organ system and whole organ designed to allow students in the IBS curriculum to develop a truly integrative appreciation of biologic function.

PGY 412G Principles of Human Physiology 4 credits

The objective of this course is to provide the basic physiological mechanisms of human body function and physiological integration of the organ systems to maintain homeostasis. Students will be learning what the different organ systems do and how they do it. With this knowledge a student should be able to form a general understanding of how the body functions in health and disease. The general purpose of the lectures is to reinforce and expand upon the material presented in the text, with a focus on concepts and problem-solving skills. Lectures will be further developed with reading assignments and discussion.

PGY 502 Principles of Systems, Cellular and Molecular Physiology 5 credits

Advanced survey of major mammalian physiological systems at the systems, cellular and molecular level; lectures, assigned reading, advanced texts or monographs, demonstrations and problem-oriented study questions.

NUTRITIONAL SCIENCES PhD CURRICULUM: YEAR 1

Courses taken the first year by students in Nutritional Sciences will vary, depending on whether the student enters the program directly, or through the IBS program.

SAMPLE 1ST YEAR CURRICULUM FOR STUDENTS ENTERING THROUGH IBS: (# credits)

IBS Curriculum, FALL Semester	IBS Curriculum, SPRING Semester
IBS601 Biomolecules and Metabolism (3*)	IBS603 Cell Biology and Cell Signaling (3)
IBS602 Molecular Biology and Genetics (3)	IBS606 Physiological Communications (3)
IBS610 Critical Reading/Small Groups (2)	IBS608 Special Topics in IBS (2)
IBS611 Practical Statistical Applications (2)	IBS607 Seminar in IBS (0)
IBS607 Seminar in IBS (0)	IBS609 Research in IBS (1)
IBS609 Research in IBS (1)	TOX600 Ethics (1)

SAMPLE 1ST YEAR CURRICULUM FOR STUDENTS DIRECTLY ADMITTED INTO NUTRITIONAL SCIENCES:

YEAR 1, FALL semester	Year 1, SPRING semester
IBS 601 Biomolecules & Metabolism (3)	IBS 603 Cell Biology and Cell Signaling (3)
IBS 602 Molecular Biology and Genetics (3)	IBS 606 Physiological Communications (3)
NS 609 Ethics in Clinical Research (1)	
NS 771 Graduate Seminar in NS (1)	NS 771 Graduate Seminar in NS (1)
Elective Course (2-3 credits)	Elective Course (2-3)

SAMPLE 2nd YEAR NUTRITIONAL SCIENCES PhD CURRICULUM:

Courses taken the second year may vary.

YEAR 2, FALL semester	Year 2, SPRING semester
NS 601 Integrated Nutritional Sciences I (3)	NS 602 Integrated Nutritional Sciences II (3)
STA 570 Basic Statistical Analysis (3)	NS 704 Current Topics in Nutrition (1)
NS 771 Graduate Seminar in NS (1)	NS 771 Graduate Seminar in NS (1)
CNU/NS 603 Integrated Nutritional Sciences III (2)	Elective ≥4 credits
Elective (variable)	

SEMINAR POLICIES

- Doctoral students are required to register for and attend the Department of Pharmacology and Nutritional Sciences seminar series every semester.
- Before taking the qualifying exam, students should register for 1 credit hour; students will receive a letter grade (A, B, C, or E) in the course.
- For the semester of the qualifying exam and in the following semesters, students should register for 0 credit hours; this will be graded on an S/U basis.
- Students are required to present one seminar before the qualifying exam, and one seminar per year after the qualifying exam.

ELECTIVE COURSES

Students must successfully complete a minimum of 7-12 credit hours in electives to meet the minimum requirement of 36 total credits. Elective courses are recommended by the Advisor and approved by the Advisory Committee. Note, IBS 610 & 608 taken in year one by students admitted through the IBS program fulfill elective requirements.

Elective Courses:

IBS 607	Seminar in Integrated Biomedical Sciences	0 credit
IBS 608	Special Topics in Integrated Biomedical Sciences	2 credits
IBS 609	Research in Integrated Biomedical Sciences	1 credit
NS/PHA 550	Drug and Nutrient Interactions (ONLINE)	2 credits
NS 606	Molecular Biology Applications in Nutrition	2 credits
NS/CNU 689	Nutrition and Chronic Diseases (ONLINE)	3 credits
NS 790	Research in Nutritional Sciences (Before qualifying exam)	1-6 credits
CNU 501	Nutraceuticals and Functional Foods	2 credits
CNU 502	Obesity C2C: Cell to Community	2 credits
CNU 611	Advanced Medical Nutrition Therapy	4 credits
CNU 612	Clinical Nutrition Assessment	2 credits
CNU/NS 605	Advanced Sports Nutrition	3 credits
CNU/NS 702	Problem-Based Case Studies	1-5 credits
ASC 681	Energy Metabolism	3 credits
ASC 683	Protein metabolism	3 credits
ASC 689	Physiology of Nutrient Digestion/Absorption	3 credits
ASC 684	Advanced Ruminant Nutrition	3 credits
ASC 686	Advanced Non-ruminant Nutrition	3 credits
FSC 638	Food Proteins	3 credits
FSC 640	Food Lipids	3 credits
FSC 434G	Food Chemistry	4 credits
BCH 610	Biochemistry of Lipids and Membranes	3 credits
BCH/BIO/MI 615	Molecular Biology	3 credits
CPH 605/PM 620	Epidemiology	3 credits
CPH 645	Food Systems, Malnutrition and Public Health	3 credits

EDP 661	Counseling Techniques II	3 credits
GS 610	College Teaching	3 credits
GS 650	Preparing Future Faculty	2 credits
KHP 420G	Physiology of Exercise	3 credits
KHP 620	Advanced Exercise Physiology	3 credits
KHP 720	Sports Medicine	3 credits
MI 685	Advanced Immunology	3 credits
MI 710	Molecular Cell Biology	3 credits
PGY 604	Advanced Cardiovascular Physiology	3 credits
PGY 607	Hormonal Control Mechanisms	3 credits
BCH 609	Plant Biochemistry	3 credits

A. DISSERTATION ADVISOR AND ADVISORY COMMITTEE

The Dissertation Advisor and Advisory Committee should be formally appointed by the Graduate School during **your first year in the program**. The advisory committee oversees the progress of the student towards a doctoral degree, and should meet at least once annually to review student progress and give the student feedback.

- To create an advisory committee, complete the "Doctoral Advisory Committee Request" online form: (https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm).

Guidelines for Doctoral Advisory Committee Composition:

- The advisory committee must have four (4) or more members, including the student's Dissertation Advisor, or principal investigator (PI):
 - Three (3) of your committee members must be Associate Professors or Professors.
 - One (1) to two (2) or more of your committee members must be primary faculty in the Department of Pharmacology and Nutritional Sciences.
 - At least two (2) of your committee members must be Nutritional Sciences graduate faculty.
 - On the graduate faculty information site, <https://ris.uky.edu/cfdocs/gs/dgsgradfac/>, the code for Nutritional Sciences graduate faculty on the dropdown list is N-S; Nutritional Sciences.
- Every effort should be made to maintain the same committee composition throughout your tenure as a doctoral student. Should a change be necessary, for example when an Advisory Committee member leaves the university or retires, a formal request must be made to and approved by the Graduate School. Please discuss issues and/or questions regarding advisory committee composition with your DGS or Director of Nutritional Sciences Education.

B. QUALIFYING EXAMINATION

A qualifying examination is required of all doctoral students. It verifies that the student has sufficient understanding of and competence in his/her chosen field in order to become a Doctoral Candidate. At a minimum, you must complete the equivalent of two years of residency (36 graduate credit hours) to be eligible to sit for the qualifying examination. The request to schedule the oral qualifying examination must be submitted to the Graduate School a minimum of 6 weeks in advance of the planned date.

https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm

Qualifying Exam Checklist:

- ✓ Complete all course requirements for the Nutritional Sciences PhD Program.
- ✓ Consult with Mr. Julien Thibault **prior to** scheduling your oral exam with your Advisory Committee to avoid departmental conflicts.
- ✓ Schedule a time to take your oral exams with your Advisory Committee. A helpful website to use when trying to schedule a time to meet with committee member is www.doodle.com.
- ✓ Reserve a room for your oral exam. For help finding a room email Julien Thibault (vthibau@uky.edu).
- ✓ Submit a completed "Recommendation for Qualifying Examination" form to the Graduate School at least 6 weeks prior to the scheduled examination. The date, time, and room number

on this form are for your oral exam.

https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm

The Qualifying Examination includes 2 parts:

- (1) a written research proposal on a novel topic developed in consultation with the Dissertation Advisor and approved by the Advisory Committee
- (2) an oral Exam

More on the Qualifying Exam:

Research proposal. Students must complete a research proposal on a novel topic developed in consultation with the Dissertation Advisor and approved by the Advisory Committee. The research proposal must be developed and written independently. The proposal is due at least seven (7) days before the oral examination. The student is encouraged to initiate development of the proposal as early as possible after entry into the program.

Oral Exam. The oral exam will usually concentrate on weaknesses found in the research proposal and the material covered in the student's nutritional sciences curriculum.

- For the oral exam, the Director of Graduate Studies will send the Dissertation Advisor the degree card and evaluations for all committee members to complete. The Dissertation Advisor should return the signed degree cards to the Director of Graduate Studies, who will deliver to The Graduate School.
- If the result of the qualifying exam is Failure, the Advisory Committee determines the conditions to be met before another examination may be given. The minimum time between examinations is four months; however, a second examination must be taken within one year after taking the first examination. A third examination is not permitted.

DOCTORAL CANDIDACY

- After passing the qualifying exam, students become doctoral candidates.
- Students who have completed all required coursework and those who have passed their qualifying exam (doctoral candidates) should register for NS 767 (2 credits) every semester.
- Doctoral candidates are also required to register for seminar (NS 771) for 0 credit hours every semester.
Doctoral candidates have five years to earn their degree after the exam, unless the Graduate School is petitioned to allow additional time.

A useful check Sheet for Doctoral Students can be found on the Graduate School Website:

http://gradschool.uky.edu/sites/gradschool.uky.edu/files/check_sheet_for_doctoral_students.pdf

C. DEGREE GUIDELINES/GENERAL GRADUATE SCHOOL REQUIREMENTS

An “Application for Degree” must be filed with the Graduate School **within 30 days** after the beginning of the semester that the student expects to complete his/her work.

<https://myuk.uky.edu/irj/portal> (Click on Student Services / myRecords / Graduate Degree Application)

The Ph.D. degree will be conferred on a candidate who has:

- ✓ Completed all coursework
- ✓ Passed a comprehensive qualifying examination
- ✓ Given one (1) departmental seminar before, and every year after, the Qualifying Exam
- ✓ Presented a satisfactory dissertation
- ✓ Passed a final oral examination
- ✓ Shows evidence of creative scholarly attainment

Link to Graduate School Forms: <http://gradschool.uky.edu/studentforms/>

D. DOCTORAL DISSERTATION

Prior to the Final Examination, the doctoral candidate must present a dissertation that represents the culmination of a major research project. It must be a well-reasoned, original contribution to knowledge in the field of study and should provide evidence of high scholarly achievement. The student’s Dissertation Advisor will provide the primary guidance in planning and preparing the dissertation; however, other members of the Advisory Committee should be consulted and may be involved as well. **A draft dissertation must be reviewed by the student’s Dissertation Advisor at least eight weeks ahead of the defense date**, as detailed below.

In general, the dissertation should include an introduction/background chapter, methods (presented as a separate chapter or embedded in other chapters), two or more research results chapters, and a conclusions/future directions chapter. Research results chapters that are self-contained and that are in the format of published manuscripts are encouraged.

The Advisory Committee must approve the dissertation two weeks before the scheduled defense. The dissertation format must conform to the specific instructions prepared by the Graduate School. A

copy of the Instructions for the Preparation of Theses and Dissertations may be obtained from the Graduate School Website: <http://gradschool.uky.edu/thesis-dissertation-preparation>

Dissertation fee payments should be made at the Student Billing Services, 18 Funkhouser Building. Students may also have their dissertation copyrighted if desired. See the UK Graduate Bulletin for details. <http://gradschool.uky.edu/graduate-school-bulletin>

E. FINAL EXAMINATION

Students are eligible to sit for the final doctoral examination after completion of two semesters of post-qualifying residency. The Final Examination will consist of a formal seminar presentation that is open to the public followed by an oral exam. The exam will include a defense of the dissertation and may be as comprehensive in the major and minor areas as the Advisory Committee chooses. An expanded Advisory Committee chaired by the Dissertation Advisor conducts the oral examination. The Dean of the Graduate School and the President of the University are “ex officio” members of all final examination committees.

The examination is a public event; scheduling is published and announced prior to the date of defense. Any member of the University may attend.

More on the Final Doctoral Exam:

- (1) Note, the Final Examination must take place no later than **eight days prior to the last day of classes of the semester** in which the student expects to graduate.
- (2) In order to provide sufficient time for the Graduate School to identify an outside examiner, you must submit the Notification of Intent to Schedule a Final Doctoral Examination (NOTIF) a **minimum of eight weeks** before the anticipated defense date. The Director of Graduate Studies will not approve the NOTIF on behalf of the student unless two conditions are met:
 - √ A rough draft of the dissertation is submitted electronically to the Director of Graduate Studies
 - √ The Dissertation Advisor notifies the Director of Graduate Studies in writing that the student is on track to complete a final draft by the target date. ([Dissertation Progress Form](#))
- (3) Upon receipt of the NOTIF, the Graduate Dean appoints an Outside Examiner as a core member of the Advisory Committee. Students are encouraged to suggest a faculty member outside of the Nutritional Sciences program as the Outside Examiner on the NOTIF form. Once an Outside Examiner is appointed, a date and time can be set for the exam. Do not schedule the exam with your committee until after the Outside Examiner is appointed. Please consult with Julien Thibault (julien.thibault@uky.edu) before finalizing dates and times to ensure that your dissertation seminar and defense do not conflict with any departmental events. A helpful website to use when trying to schedule a time to meet with committee members is www.doodle.com.
- (4) Once you have finalized the date and times, you should also reserve rooms for both your dissertation seminar and oral exam. For help finding rooms email Julien Thibault.
- (5) **Doctoral candidates must request scheduling of the final defense date with the Graduate School at least two weeks before the date desired** using the *Request for Final Doctoral Examination* form: https://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm. An acceptable copy of the dissertation must be presented to all members of the Advisory Committee and the Graduate School at this time. The draft must be complete in content, including all footnotes, tables, figures,

and appendices. A full bibliography or set of references must be included, along with a title page and abstract.

- (6) After the Final Examination is passed, the final copy of the dissertation is prepared. Final copies are submitted to the Graduate School along with the signature of the Dissertation Advisor and the Director of Graduate Studies.
- (7) The dissertation in its final form must be received in the Graduate School office ***within 60 days of the Final Examination***. *If this deadline is not met*, the Candidate must undergo a second examination.

Cancellation of a Final Examination (<http://ukgrad.askadmissions.net/ask.aspx>):

A Final Examination may be canceled prior to its official start for substantive reason with no permanent consequences for the student. The student has not failed the examination in this case because it was never officially begun. Substantive reasons can include a missing committee member, a sudden difficulty in the candidate's personal life that may affect performance, or a (late) opinion on the part of one or more committee members that the dissertation is not ready to defend. In such cases, the committee may hold an open or closed discussion to review the issues at hand and reach a decision on whether to hold the examination or not. Furthermore, the candidate does have the right to cancel the examination before it begins. If the examination is canceled, it must be formally rescheduled with the Graduate School in the standard fashion. A minimum two-week interval is required for re-scheduling the examination.

GENERAL TIMELINE FOR DEGREE PROGRAM

Before the 1 ST Semester	<ol style="list-style-type: none"> 1. Meet with the DGS and develop a coursework plan for the first semester and a preliminary plan for the rest of your program. 2. Attend the new student orientation.
1 ST Year	<ol style="list-style-type: none"> 1. The number one priority for your first semester is to do well in your courses. 2. Perform laboratory rotations, if applicable. By the end of the first year, you will need to identify a Dissertation Advisor who can support your graduate stipend. 3. Submit Individual Development Plan (IDP) at the end of the academic year.
2 ND Year	<ol style="list-style-type: none"> 1. Continue to do well in your courses. 2. Work on your research project. 3. Form an Advisory Committee, in consultation with your Dissertation Advisor, by the beginning of your second year. 4. In the second semester of your second year, you will need to present a seminar in the Department of Pharmacology and Nutritional Science seminar series (NS 771). 5. By the end of your second semester of your second year, have a committee meeting that sets a timeline for your qualifying exam. Advisory Committee meeting minutes should be sent to Julien Thibault and the Director of Graduate Studies within a week of the meeting (a template for this is in the Appendix). 6. Submit IDP at the end of the academic year.
3 RD Year	<ol style="list-style-type: none"> 1. Take and pass your qualifying exam. 2. Work on research project. 3. Meet with Advisory Committee; email meeting minutes to the Director of Graduate Studies and Julien Thibault. 4. Submit IDP at the end of the academic year.
4 TH & Subsequent Years	<ol style="list-style-type: none"> 1. Work on research project. 2. Present your research once per year in the seminar series (NS 771). 3. Meet with your Advisory Committee at least once per year; email meeting minutes to the Director of Graduate Studies and JulienThibault. 4. Submit IDP at the end of each academic year.
Final Semester	<ol style="list-style-type: none"> 1. File Application for Degree with the Graduate School: An Application for Degree must be filed with the Graduate School via MyUK within 30 days after the beginning of the semester. Go to the following website: https://myuk.uky.edu/irj/portal After logging in, click on Student Services / myRecords / Graduate Degree Application. 2. The procedures for preparing your dissertation and scheduling your final exam are listed above in the Doctoral Dissertation and Final Exam sections.

ACADEMIC TOPICS

Research Assistantships

Candidates for a Ph.D. are required to [apply for a Research Assistantship](#), which represents an integral part of the Ph.D. program.

Outside Employment

- Research Assistantships are considered to be full-time positions. Outside employment is strongly discouraged if it appears to interfere with a student's ability to handle their coursework, current workload, or timely progress to degree.
- Students are not allowed to have additional, outside employment *within UK* unless approved ahead of time. To obtain approval for other employment at UK, an Overload Request Form (<http://gradschool.uky.edu/sites/gradschool.uky.edu/files/Forms/StudentForms/Overload%20Request%20Form.pdf>) must be submitted to the Director of Graduate Studies, who will then submit to the Graduate School after consulting with the student's Ph.D. Advisor.
- International students are not permitted to have outside employment.

Research Integrity

- All biomedical research in the Division of Nutritional Sciences follows strict federal, state, and university mandates concerning research protocols, use of laboratory animals and research involving human subjects.
- The Office of Research Integrity (ORI) at the University of Kentucky both supervises and monitors adherence to these mandates. <http://www.research.uky.edu/ori/>
- The ORI also supports the institution in promoting ethical conduct of research and educating UK students and employees regarding research misconduct regulations.
- Students must adhere to all approved protocol and procedures set forth by their Dissertation Advisors.

Honor Code/ Plagiarism

- Pursuit of a graduate degree in Nutritional Sciences constitutes an agreement to adhere to high standards of honesty and ethical behavior.
- Cheating, plagiarism, and any scientific misconduct such as falsification of data or deliberate misuse of equipment may result in dismissal from the program.
- Procedures outlined in the UK Student Code will be adhered to with respect to a charge of misconduct. <http://www.uky.edu/StudentAffairs/Code/part1.html>

Health Care Colleges Code of Student Professional Conduct:

<http://www.uky.edu/regs/files/HCCcode.pdf>

Evaluation of Academic Performance and Progress Towards Degree

The Graduate School requires each program to annually review whether a student is making good progress towards their degree. The Provost's office also has specific requirements for student assessment. Students will receive an Annual Review of Standing in the PhD program at the end of each

academic year from the Director of Graduate Studies (a copy of the Annual Review of Standing form is included in the Appendix). This section provides guidelines to be used in the unusual circumstance that the department must consider dismissal of a graduate student for academic or professional reasons. From [University of Kentucky Administrative Regulations 5:2](#), “Teaching, research and graduate assistants will maintain satisfactory academic records and progress toward degrees. If their academic progress is unsatisfactory, their assistantships may not be renewed”.

It is anticipated that every student will be able to fulfill the requirements for a PhD within a reasonable timeframe. It is each student’s responsibility to arrange a meeting with his/her Dissertation Advisor and Advisory Committee at least once per year to formally evaluate academic and research progress. Minutes from Advisory Committee meetings should be submitted to the Director of Graduate Studies (template form for meeting minutes is in the Appendix). Student progress is also assessed based on the Individual Development Plan (IDP) form, to be completed annually by doctoral students and signed by their Dissertation Advisors.

Procedure for addressing issues raised by students or advisors

During graduate study, if a student or Dissertation Advisor encounters an issue that cannot be resolved, he/she should meet with their Advisory Committee. If the issue remains unresolved, the student and/or Major Advisor should contact the Director of Graduate Studies. If warranted, the Director of Graduate Studies will assemble an *ad hoc* Student Committee after consulting with the department Chair. This committee will typically include the Director of Graduate Studies, the Director of Education for DPNS, and a few departmental faculty members at large. The purpose of this committee is to assess the situation and make recommendations to the department Chair and/or Dean of the Graduate School as appropriate. The student will always have the opportunity to represent themselves during *ad hoc* Student Committee deliberations.

Transfer to a different laboratory

It is by mutual consent that a graduate student carries out dissertation research in the Dissertation Advisor’s laboratory. Dissertation research can be terminated if desired by either the Dissertation Advisor or student. If during the course of a graduate student’s program, the student wishes to change to a different Dissertation Advisor but continue in the degree program, or the Dissertation Advisor wants to resign being the Dissertation Advisor, the Director of Graduate Studies must be notified. If the student is in good academic standing, the Director of Graduate Studies will advise the Department Chair, who will decide regarding continuation of support. *Students may not receive support if they do not identify mentors within the faculty of the Department of Pharmacology and Nutritional Sciences.* The department cannot guarantee placement or continued support for an indefinite period of time. If the student is unable to identify a new Dissertation Advisor within the stipulated period, the student may be considered for dismissal due to a failure to progress toward degree.

Reasons for dismissing a student from the PhD program include the following:

- Scholastic probation: When students have completed 12 or more semester hours of graduate course work with a cumulative GPA of less than 3.0, they will be placed on scholastic probation. Students will have one full-time semester or the equivalent (nine hours) to remove the scholastic probation by attaining a 3.0 cumulative GPA.

- Failure to identify a Dissertation Advisor (following rotations or lab transfer)
- Failure to pass the qualifying exam on the second attempt.
- Student misconduct:
 - Plagiarism on class assignments or exams, or on the qualifying exam or dissertation.
 - Academic cheating, falsification of research data, or misuse of University equipment or grant funds.
 - Excessive and unexcused absenteeism.
 - Harassment of departmental personnel.
 - Violation of the Code of Student Conduct (<http://www.uky.edu/StudentAffairs/Code>).
- Failure to make adequate progress towards a doctoral degree as determined and documented by an unsatisfactory grade “UN” for 767 (Dissertation Residency Credit)

The process for addressing inadequate progress towards degree:

- The Dissertation Advisor should notify the Director of Graduate Studies in writing about the student’s unsatisfactory performance, with documentation from a committee meeting, written comments on an IDP, or written correspondence with the student.
- Students, in collaboration with their Dissertation Advisor and Advisory Committee, will devise an action plan to improve productivity, address shortcomings and include a timeline to meet outlined goals. The action plan will be agreed upon and signed by the student, the Dissertation Advisor, and the Director of Graduate Studies.
- The Advisory Committee will reconvene at an agreed upon date and time (within 6 months of the action plan being filed) to receive an update on student progress, at which point, if issues are not resolved, a recommendation for dismissal may be submitted in writing to the Director of Graduate Studies.

The process for student dismissal:

- A student’s Advisory Committee and/or Dissertation Advisor may recommend termination at any time prior to the Qualifying Examination, after the student has failed to pass one Qualifying Examination, or after the Qualifying Examination has been passed. The recommendation must be in writing to the Director of Graduate Studies with a copy to the student. The letter should clearly document the reasons for the recommendation.
- At the recommendation of a student’s Advisory Committee and/or Dissertation Advisor, the Director of Graduate Studies will assemble an *ad hoc* Student Committee as described above. The purpose of this committee is to assess the situation and make recommendations to the department Chair and/or Dean of the Graduate School as appropriate. The student has the option to present his/her case at this time.
- A student may be dismissed from the Graduate School via a recommendation of the Dean of the Graduate School to the Provost.

The process for student appeals [From Administrative Regulations 5:2]:

If the student believes that the department’s decision to terminate the teaching or research assistantship is in error, they may appeal the ruling to the Graduate Council within 15 days of the notice of non-reappointment. A delegated subcommittee of at least five (5) members of the Graduate council

will consider the appeal, request further information from the student or the education unit if necessary, and issue a written response to the student within 45 days of the appeal being filed. If the student believes that the termination is the result of a violation of established procedure or academic freedom, the student may file a complaint with the Senate Advisory Committee on Privilege and Tenure, in accordance with the procedures outlined in Section 1.4.4.2 of the University Senate Rules (AR 5:2.C,D). Under Governing Rules GR XI, the University Appeals Board (UAB) can take appeals if the student alleges a violation of student rights, and the UAB has jurisdiction over “final decisions of University hearing agencies in which a student alleges a violation of student rights.”

MISCELLANEOUS TOPICS

Communication Skills

- The development of good communication skills is a vital part of graduate education. These skills are improved through a wide range of activities including seminar courses, journal clubs, teaching experiences, the writing of manuscripts, research proposal and grant applications, presentations at local, regional and national meetings, as well as the final dissertation.
- Proficiency in English is required of all graduate students in the Nutritional Sciences program. English as a Second Language classes are available to the Division’s students. Please contact the Student Coordinator for further information.

Research Presentations

Students are encouraged to present research data at national/international professional meetings such as those organized by the Federation of American Societies for Experimental Biology (FASEB), American Society of Nutrition, American Association for Cancer Research, American Heart Association, Society for Free Radical Biology and Medicine, American College of Nutrition, American Diabetes Association, Society of Toxicology, and Institute of Food Technologists. These meetings provide an opportunity to interact with peers, faculty and others with common interests.

Student Travel Support Requirements

Support for professional travel to meetings and conferences is available through the College of Medicine, the Graduate Student Congress and sometimes through the Department of Pharmacology and Nutritional Sciences. Please refer to this student travel document linked to our department website for more information:

https://drive.google.com/file/d/1iwD8fun7_K4bvveA98p9ryLMrotEXvnR/view?usp=sharing

Please note that students are eligible for travel awards to present a research paper or abstract, not for attendance alone. Also, contact your current Graduate Student Congress representative for information about Awards for Travel, Research and Service.

Support for travel to a professional meeting will be provided only when a research paper is to be presented. An application must be completed and accompanied by the following documents:

- An abstract of the paper to be presented
- A copy of the invitation to present or a program confirmation card (a copy of the meeting program with the student’s name listed as a presenter).

- An itemized budget of expenses.
- Students must acknowledge the “Division of Nutritional Sciences” as their affiliation when presenting a paper with slides or a poster.

Vacations and Holidays

New students should be aware that graduate school differs from undergraduate study in that graduate work is a full-time endeavor throughout the 12 months of the year. In general, students are expected to be in lab during the workweek when not in class or studying. Students should also be aware that time-sensitive scientific research can often require work on holidays, weekends, and nights. The department recommends the following guidelines for planning time off:

- Students on Research Assistantships should be allowed two weeks of vacation per year in addition to holidays approved for all staff at the University of Kentucky.
- Fall and Spring Breaks are **not** vacation times for students on assistantship; the Christmas/New Year holiday usually falls between December 25th and January 1st.
- Effective communication between students and their advisors before vacation times is in everyone's best interest.
- RA's must submit a UK Absence Record, signed by both the student and the advisor for all travel, sick, and vacation time. These records will be maintained by the departmental administrator.

Student Recruitment

Students may be requested to assist the department in recruiting new students or orienting them to the NS and IBS programs. This may include attending lunches and question/answer sessions, or by giving tours or demonstrations at the request of the Chair or Director of Graduate Studies.

Personal Safety

Students should always consult with a faculty member before using new equipment, toxins, chemicals or infectious agents. Students should also be aware that the University requires specific safety training before using various methods and equipment. The following is a partial list of University web pages where you can register for specific training classes or review appropriate safety manuals.

- Blood Borne Pathogens: <http://ehs.uky.edu/classes/>
- Chemicals and Lab Safety: <http://ehs.uky.edu/classes/>
- Hazardous Waste: <http://ehs.uky.edu/classes/>
- Lab Animals: <https://www.research.uky.edu/division-laboratory-animal-resources/training>
- Laser Safety: <http://ehs.uky.edu/classes/>
- Radiation Safety: <http://ehs.uky.edu/classes/>
- Additional safety information: <http://ehs.uky.edu/>

Keys

Requests for lab or equipment room keys must be approved by your research advisor and departmental chair. Key forms are obtained from the departmental administrator.

Photocopier Privileges

Students may use the departmental photocopier for either research or academic, but not personal, use. An access code may be obtained from the departmental administrator.

E-Mail

All Nutritional Sciences Ph.D. Students are required to activate their UK e-mail addresses. All correspondence from the Department as well as from the departmental staff will be communicated only through the UK e-mail system. Students are expected to contact faculty using their UK email accounts.

Appendices

- Template: Advisory Committee Meeting Minutes
- Qualifying exam assessment form
- Seminar evaluation form
- IDP (Individual Development Plan) form

ADVISORY COMMITTEE MEETING MINUTES



Date:

Student name:

Committee members in attendance:

Accomplishments/ Progress Report/ Concerns:

Next steps/ Action items (with timeline):

Next committee meeting (scheduled):

Minutes approved by (Chair of Committee):

Name: _____