

# HUMAN NUTRITION, PH.D.

The PhD in human nutrition is a three-year, 54-credit-hour program designed to align with the goals and objectives of the National Institutes of Health's National Center for Advancing Translational Sciences (NCATS). As such, the program supports the training and development of researchers and leaders in the field of nutrition by focusing on developing the skills needed to perform bench-to-bedside-to-community research. Graduates of the PhD in human nutrition will be experts in nutrition research methodologies and translational nutrition, thereby efficiently advancing the field of nutrition through research to improve human health.

In accordance with the goals of the National Institutes of Health NCATS to implement and promote translational science approaches that foster collaborative bench-to-bedside-to-community approaches, a student who has completed this doctoral program in human nutrition will demonstrate mastery of:

- 1) Translational nutrition – Demonstrate proficiency in nutrition techniques that are integrated across discrete areas of nutrition research methodologies into a cohesive research agenda that moves nutrition research from the laboratory to the patient/community.
- 2) Communication - Effectively communicate nutrition information, evidencing the ability to evaluate and interpret current research for presentation to the academic, scientific, and/or the lay community.
- 3) Nutrition research practice – Demonstrate an understanding of relevant laboratory analyses methodologies, metabolic assessment techniques, and statistical research methodologies appropriate for developing strong, competitive research proposals.
- 4) Independent research – Demonstrate the ability to support an independent career in research by successfully developing and implementing a research protocol, gathering data to effectively test the hypothesis (or hypotheses), and analyzing and interpreting the data.
- 5) Effective educators - Demonstrate skills of effective classroom presentation of nutrition-related information.

**Application Deadline:** February 1. Admission decisions for Fall term will be made in late February.

**Contact Information:** Before applying, it is recommended that you contact the director of the PhD Program in Human Nutrition, Dr. Linda Knol, at lknol@ches.ua.edu or 205-348-8129.

For additional information, please visit the program webpage at <http://www.nhm.ches.ua.edu/phd-in-human-nutrition.html>

## Admissions

Students may enter the program with either a bachelor's or master's degree in nutrition or a master's degree in a closely nutrition-related field.

Requirements for admission to the Ph.D. in Human Nutrition will be:

- A completed application, including a Statement of Purpose
- A current resume or curriculum vitae
- Three letters of recommendation from faculty or other health professionals capable of judging the applicant's ability to complete graduate work.
- Test Scores:

- If a student has previously completed a Master's degree prior to beginning the Doctoral program and maintained a graduate GPA  $\geq 3.5$ , their application will be considered without the need to submit a GRE score.
- Students who have previously completed a Master's degree prior to beginning the Doctoral program with a graduate GPA of 3.3-3.49 may be considered for admission providing they also have a GRE score of  $\geq 300$ . Upon admission, these students would need to receive permission to continue after the successful completion of 12 graduate hours.
- Students with a Bachelor's degree will need to submit GRE scores. Minimum requirement for admission is a  $\geq 300$  on the GRE.
- If an applicant does not have a previous degree in nutrition, minimum prerequisite course work would include NHM 558 Nutr Prev Trtmt Chron Disease, NHM 561 Adv. Vitamins and Minerals, and NHM 562 Metabolism of Energy Nutrients. These would need to be completed in the first year of study. The sequencing of course offerings will be structured such that taking these prerequisites courses will not increase time to graduation nor will they require additional burden or heavier academic loads on the students in order to achieve a timely graduation.
- Additionally, if a student is admitted without having previously completed a Master's degree, they will need to complete NHM 509 Research Methods in Nutrition. The sequencing of course offerings will be structured such that taking prerequisites course(s) will not increase time to graduation nor will they require additional burden or heavier academic loads on the students in order to achieve a timely graduation.

Please see the link below for general Graduate School admission criteria.

See the Admission Criteria section of this catalog for more information.

## Curricular Requirements

The Ph.D. in Human Nutrition requires completion of 54 graduate hours, including 18 hours of nutrition core classes, 9 hours of statistics, 9 hours of nutrition electives, and 18 hours of dissertation research.

To complete the PhD in Human Nutrition, students will need to complete the required courses, obtain at least 54 credit hours (including dissertation courses), pass both the written and oral preliminary exams, and complete the dissertation. Additionally, students need to earn a grade of B or better in all required coursework and any NHM designated course, and at least a 3.0 overall GPA to graduate.

Human Nutrition, Ph.D.		Hours
<b>Required Courses</b>		
NHM 601	Contemp Research Nutrition Sci	3
NHM 602	Methods Integrat Nutr Assess	3
NHM 603	Nutrition Intervention	3
NHM 635	Adv Prac. in Post Sec. Diet Ed	3
NHM 691	Grant Writing Nutrition Res	3
NHM 648	Secondary Analysis Survey Data	3
NHM 695	Interpret Nutrition Research	3
Statistics Elective (600 Level)		6
<b>Research Hours</b>		
NHM 699	Dissertation Research	18

Nutrition Electives		9
NHM 550	Advanced Community Nutrition I (Nutrition Electives )	
NHM 551	Adv. Community Nutrition II	
NHM 555	Maternal and Infant Nutrition	
NHM 556	Child and Adolescent Nutrition	
NHM 557	Childhood Obesity	
NHM 564	Nutrition in IPP	
NHM 565	ID Mgmt of Chronic Disease	
NHM 568	Nutrition for the Older Adult	
NHM 590	Special Prob Nutrition	
NHM 605	Crit Anal Trans Nutr Res	
NHM 610	Nutr. and Health Disparities	
NHM 611	Nutritional Neuroscience	
NHM 625	Nutritional Epidemiology	
NHM 698	Non-Dissertation Research	
<b>Total Hours</b>		<b>54</b>

## Transfer Credit

With the approval of the student's PhD Advisor and the Dean of the Graduate School, up to 9 of the required course hours may be transferred from another institution. Required courses must be taken at UA. Submit the form, Request for Transfer of Graduate Credit, to the Graduate Office who will submit it to the Graduate School during the first semester enrolled at the University of Alabama.

For students who have earned a master's degree at The University of Alabama, all applicable hours (i.e., course hours for which graduate credit has been received in the same department or in a closely affiliated department, but not including NHM 598 or NHM 599) may transfer to the PhD program. The number of hours that qualify for transfer is at the discretion of the Department, as recommended by the student's PhD Advisor and as approved by the Dean of the Graduate School. Subject to the approval of the student's PhD Advisor, graduate courses in allied departments may be taken to meet the remainder of the requirements. Transfer credits are considered Pass/Fail for calculation of grade point average, but are included in the course hours, provided they are from graded courses.

## Doctoral Plan of Study Requirement

All doctoral students must have a completed Outline of Ph.D. Program (Plan of Study) approved by the Graduate School no later than the semester during which the student will complete 30 semester hours of UA and/or transfer credit toward the doctoral degree.

For more information, see the Plan of Study section of this catalog.

## Comprehensive/Qualifying Examination

The purpose of the comprehensive examination is to determine the student's research competence to begin work on a dissertation. The written examination should be successfully completed at least nine months before the degree is to be awarded. Students should consult their academic advisor regarding the timing of the exam in the context of their academic plan. The comprehensive or preliminary qualifying examination is required of all doctoral candidates. This examination is administered after:

- foreign language/research skill requirements are met,
- completion of the required core nutrition courses, and

- the comprehensive exam committee deems the student to have adequate preparation in the major and minor fields of study.

To take the qualifying exam, students must be in good standing based on graduate school guidelines.

- Students may not have any incompletes "I."
- Students must have a current overall GPA of 3.0 or above.

**Courses Covered:** The written comprehensive examination is required of all candidates for the Ph.D. degree. The written exam will be offered in January and May of each year. This exam should be prepared for by individual study expanding on the content covered in four core courses: NHM 601 Contemp Research Nutrition Sci, NHM 602 Methods Integrat Nutr Assess, NHM 603 Nutrition Intervention, and NHM 648 Secondary Analysis of Survey Data. The exam must be passed unconditionally before the student can defend his/her proposal and be advanced to candidacy. Students should NOT assume that "A" level performance in their coursework is adequate preparation for the comprehensive exam. Students must be registered for at least one semester hour of graduate work during the semester(s) in which the comprehensive exams are taken.

**Procedures:** Four weeks prior to the scheduled exam due date, students will randomly select their nutrition topic from a list of clinical nutrition topics and receive the questions. The student will be asked to develop a translational research agenda for the topic and develop three study protocols with the following designs:

- Section 1: Bench or Basic/Mechanistic Study
- Section 2: Epidemiological/Cross-Sectional Study
- Section 3: Efficacy and Pragmatic Studies

**Academic Misconduct:** Situations involving any suspected violation of the Academic Honor Code on the comprehensive exams for the doctoral degree will be sent to the Academic Misconduct Monitor (in HES: Assistant Dean). Any student found in violation of the Academic Honor Code will be subject to penalties imposed by the Academic Misconduct Monitor and may be as severe as dismissal from the University.

**Grading:** Each section of the exam will be graded by three nutrition professors for content, grammar, and organization of thought. Graders will be blinded to reduce bias. Answers within each section will be graded separately. Students may receive one of the following grades: pass (80% or better), contingency (70-80%), and fail. Insufficient depth or detail or incorrect content will not result in a passing grade.

- Students who pass all three sections of the written exam may move to the oral exam.
- Students who receive a contingency grade on any section of the exam will be allowed to rework that section of the exam for a better grade. Contingency grades will need to be resolved within one week after initial exam feedback. The rewrite will be graded as pass or fail. If the grade is a fail, then the student will need to retake that portion of the exam in the following semester with a new topic.
- Once any contingency grades are removed, the student may move to the oral exam.
- Student who fail one or more sections will be allowed to retake those sections during the next available testing opportunity. **Only 1 retake is allowed.**

**Failure to successfully pass any part(s) of the examination retake will result in dismissal from the degree program and the Graduate School without confirmation of the degree. Students retaking a section of the**

exam will randomly receive a new topic to base their answer upon from the set of topics distributed during that testing period.

## Admission to Candidacy Requirements

The requirements for advancing to candidacy include:

- passing the written qualifying examination;
- completion of all coursework as listed on the approved program of study;
- receiving approval of the dissertation subject;
- successfully defending the dissertation proposal, which includes the written proposal; and
- having the designated dissertation committee recommend the student for admission to candidacy for doctoral degree. The completed Admission to Candidacy for Doctoral Degree form must be submitted to the Graduate School well in advance of the final semester.

The oral exam will be completed at the dissertation proposal defense. To complete the oral exam, the student will:

- Select a chair (or 2 co-chairs) as primary mentor(s) (see information on advisory committees),
- Select a total of 5 professors that will serve on the dissertation committee according to graduate school guidelines,
- Complete the Dissertation Research Proposal and the IRB/IACUC/IBC protocol,
- Schedule a formal proposal defense with an open invitation to all faculty and graduate students,
- Formally present the proposed project including background, research questions and hypotheses, methods, and projected timeline to the committee and other audience members, and
- Answer questions from both the general audience and the dissertation committee.

The PhD Dissertation Advisory Committee will assess the quality of the proposal. Evaluation of the proposal will be based on the following considerations:

1. Scope of the proposal (10%). Is the research topic novel and important? Is the proposed project appropriate for the timeline?
2. Background (30%). Is the literature review comprehensive and appropriate? Does the literature review identify a problem or series of problems that justifies the direction of the proposal?
3. Experimental plan (40%). Are there clearly stated hypotheses for each section, or at least clearly stated expectations of experimental outcomes? Are the proposed experiments/methods appropriate tests of the hypotheses? Does the author have realistic expectations of the experimental methods? Are alternate hypotheses and experimental approaches proposed to cover the possibilities that: (i) the primary approaches prove to be inappropriate, (ii) the primary approaches disprove the hypotheses?
4. Presentation (20%). Is the proposal well organized and clearly written?

Each of the above evaluation criteria will be assigned a score of 1-5 as follows:

- 1 – Outstanding
- 2 – Excellent
- 3 – Good/Average

4 – Fair

5 – Poor

An *average weighted cumulative score* of no greater than 3.0 must be earned in order to pass the proposal-based written exam.

Successful defense of the oral exam resulting in at least 80% favorable vote from the committee is required for students to be recommended for admission to candidacy. Committee members will sign the Admission to Candidacy for the Doctoral Degree form. At this point, the student will be considered a doctoral candidate and may register for dissertation hours.

## Continuous Enrollment Policy

See Continuous Dissertation Registration section of this catalog.

## Dissertation Requirements

Once the proposal and IRB/IUCC/IBC are approved, the student may begin research. The student should not be allowed to complete the research until they receive these approvals. The student cannot propose a dissertation and have its final defense in the same semester. The following procedures should be completed prior to submitting the final dissertation to the committee:

- Complete the research under the guidance of the chair,
- Ensure the document conforms to the guide for thesis and dissertation,
- Gain approval of the chair (co-chairs) to distribute the dissertation to all committee members allowing committee members two weeks to read the dissertation,
- Schedule a formal dissertation defense with an open invitation (including title, name, date, time and location) to all faculty and graduate students,
- Ensure all committee members can attend the defense,
- Formally present the final dissertation including background, gaps in the literature, research questions and hypotheses, methods, results, conclusions, and publication plan to the committee and other audience members on the scheduled day and time of the defense, and
- Answer questions from both the general audience and the dissertation committee.

All students must pass a final oral examination related to their dissertation. Final oral examination questions may also include other subjects beyond the student's research that the PhD Dissertation Committee or other faculty deem relevant. Final oral examinations and defense of the dissertation for the PhD must be taken not less than six weeks prior to the proposed graduation date. Each semester the graduate school posts dissertation due dates.

The outside member of the student's committee must attend and participate in the final defense; this may be a virtual presence if the member can see and hear the presentation and actively participate in questioning of the candidate. All departmental faculty have the right to attend the oral defense, and have the right to ask questions of the student that are relevant to the goals of the examination.

Only faculty on the student's committee may vote on whether the student has passed or failed the examination. Evaluation of the final defense will be completed using the procedures described in the proposal section of this document.

Upon successful defense of the dissertation, file the Doctoral Final Defense form with the Director and submit this form to the Graduate

School. At the conclusion of the defense, it is common practice that committee members ask for changes in the final dissertation document. Substantive changes may require an additional committee meeting. Minor changes may require revisions to the document only.

Prior to submission of the final dissertation to the online thesis/dissertation portal, students should have received approval to submit by all committee members.

It is the student's responsibility to submit the dissertation to the online thesis/dissertation portal. The student should be aware of all deadlines regarding the dissertation defense and adjust his/her timeline to meet these deadlines.

**Changes to Approved Dissertation Proposals.** In some rare instances, students may not be able to complete the proposed research approved by their committee. Examples of such instances include but are not limited to:

- changes in University policies that restrict or limit the proposed research,
- newly published research that may change the significance, scope or methods of the proposed work,
- early results that suggest the research should be discontinued due to adverse effects or severe adverse effects,
- recruiting problems that cannot be resolved,
- change in the health status of the student that limits their ability to complete the proposed work, and
- early results that suggest no therapeutic effect to be derived.

If any of these situations were to occur, the student should contact the committee chair. The committee chair will then contact the Director of the MS or PhD program and the department chair. The Committee chair, director, and department chair will meet to review the original proposal, description of the problem, and potential solutions. This group will decide to either continue the research as proposed, make significant changes to the proposed methods (example: change from a clinical trial to an online survey, change from a clinical trial with humans to a rodent model, etc), or propose an alternative dissertation. If changes are approved, these changes may lead to a delay of graduation. Students should refer to their offer letters for the term of their assistantship, if applicable.

If a student is allowed to make minor alterations to the methods only without changing the composition of the committee, then the student should:

- propose those changes in writing and submit to the committee members,
- schedule a meeting to discuss the proposed changes with the committee members,
- develop an alternative timeline approved by the committee, and
- obtain IRB/IACUC/IBC approval of modifications.

Once the committee and IRB/IACUC/IBC approve the new plan, the student can continue the research utilizing the new methods. The committee chair should notify their program director that the committee has approved the desired changes.

If a student is allowed to propose an alternative thesis or dissertation or substantially altered thesis or dissertation, then the student will need to:

- Work with the chair of the committee to alter the research plan.
- Create a project abstract that can be distributed to committee members.

- Assess the composition of the existing committee and add or eliminate committee members.
  - For existing committee members, the student should provide each committee member with a copy of the revised abstract, meet with the members to discuss changes in research questions and hypotheses, methods, and projected timelines, and discuss the member's willingness to continue to serve on the committee.
- For new committee members, the student should invite the new member to serve on the committee, provide the potential member with the abstract, meet with the potential committee member and the Committee Chair (in person or by phone, skype, etc), discuss the project with the potential member, and confirm whether the faculty member wants to serve on the committee.
- Committee members, whose expertise is no longer needed, should be contacted by the student to discuss the changes in the plan and committee.
- If committee member changes are made, the student is responsible for edits to the "Thesis/Dissertation Committee" form.
- Complete or modify the Thesis or Dissertation Research Proposal (See Guidelines for Writing the Dissertation Proposal) and the IRB/IACUC/IBC protocol.
- Revise the proposal document to the chair's satisfaction (a student cannot set a proposal meeting until the chair is satisfied with the document).
- Gain approval of the chair (co-chairs) to distribute the proposal to all committee members.
- Schedule a formal meeting to discuss the changes to the plan with the committee members only.
- Formally present the proposed revised or significantly altered project including rationale, any additional background needed, research questions and hypotheses, methods, and projected timeline to the committee.
- Answer questions from the dissertation committee.

Once the committee and IRB/IACUC/IBC approve the new plan, the student can continue the research utilizing the new methods. The committee chair will notify their program director that the committee has accepted the revised plan.

Note: While changes in the proposed research plan may extend time to graduation, they will NOT extend the time limit for the degree. Although a change in plan may be granted, the student should not expect to receive additional financial assistantship from the department. Please review your offer letter, if applicable.

See Dissertation section of this catalog.

## Time Limits for Degree Completion Requirements

See Time Limits section of this catalog.

## Student Progress Requirement

PhD students are encouraged to engage in research as soon as practical and may explore short-term projects before solidifying a dissertation project. All students must make continuous satisfactory research progress while enrolled in the PhD program. Student performance will be evaluated each semester by their mentor starting in their second semester of their first year. Each student will be evaluated for their

continuation in the program and their eligibility of receiving financial support.

Each student is asked to complete the PhD Student in Human Nutrition Progress Report and submit this form to the mentor. At the beginning of each semester, the student will meet with the mentor to outline goals and objectives for the semester. The research mentor will meet with the student to evaluate progress toward meeting the stated goals and objectives at the end of each semester. The student will be rated by the mentor as either exceeds expectations, meets expectations, or fails to meet expectations. The major professor must complete the evaluation page of the Progress Report (see Appendix) and discuss the findings with the student. A copy of this report shall be sent to the Department Chair, the Director and the student.

Students who fail to meet expectations will be placed on probation and have one semester to improve their evaluation to a meets/exceeds expectations rating. All evaluations are reviewed by the Director and the Department Chair. If the student fails to improve his/her rating, the student may be dismissed from the program. Decisions regarding dismissal will be made by the mentor, Director, and Department Chair.

Evaluation Criteria:

- **Exceeds Expectations:** The student has an overall GPA of 3.0 or higher, met stated goals and objectives for the semester, made satisfactory research progress commensurate with time in the program, completes all research tasks in an ethical manner, follows standard and established research protocols, and has accomplished two or more of the following:
  - a. Presentation of research at a national or international meeting or submission of an abstract for a presentation.
  - b. Submission of a research proposal for funding external to the University.
  - c. Any honor or award reflecting outstanding achievement.
  - d. Submission/acceptance/publication of a research manuscript as a junior author.
- **Meets Expectations:** The student has an overall GPA of 3.0 or higher, met stated goals and objectives for the semester, made satisfactory research progress commensurate with time in the program, completes all research tasks in an ethical manner, follows standard and established research protocols, and has accomplished one or more of the following:
  - a. Presentation of research at a national or international meeting or submission of an abstract for a presentation.
  - b. Submission of a research proposal for funding external to the University.
  - c. Any honor or award reflecting outstanding achievement.
  - d. Submission/acceptance/publication of a research manuscript as a junior author.
- **Fails to Meet Expectations:** The student has an overall GPA of 3.0 or higher, and is **NOT** meeting one of the following expectations:
  - a. Stated goals and objectives for the semester,
  - b. Satisfactory research progress commensurate with time in the program,
  - c. Completion of all research tasks in an ethical manner, or
  - d. Following standard and established research protocols.

Students who are not making appropriate progress toward the degree based on the Degree Time Line or students with an overall GPA below 3.0 must be rated fails to meet expectations.

Students on assistantships will receive a review of their progress from their supervisor. The student's progress toward degree completion, mentor's review, and the supervisor's review will be considered when making decisions for continuation of assistantship funding.

## Academic Misconduct Information

**Academic Misconduct:** All students in attendance at the University of Alabama are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. Academic misconduct includes all acts of dishonesty in any academically related matter and any knowing or intentional help or attempt to help, or conspiracy to help, another student. The Academic Misconduct Disciplinary Policy will be followed in the event of academic misconduct.

Students and their mentors must adhere to the four key guidelines of scholarship, authorship, approval and agreement as well as the protocols of ensuring good publication ethics outlined by the National Institutes of Health (NIH) and the International Committee of Medical Journal Editors (ICMJE).

See Academic Misconduct section of this catalog.

## Withdrawals and Leave of Absence Information

See Withdrawals and Leave of Absence policy section of this catalog.

## Academic Grievances Information

If concerns arise, students are encouraged to communicate with the instructor or staff member who is directly involved with the concern. Usually the concern can be resolved satisfactorily through honest and open communication with the faculty or staff member. Meeting with the instructor or staff member should be the first step in resolving the concern.

However, if informal discussions have not yielded a satisfactory resolution, or where the matter is more serious, the student may bring the concern to the Assistant Department Chair. Should the Assistant Department Chair not be able to come to a satisfactory resolution, they will direct the student on the next steps to move the concern to the next level.

See Academic Grievances section of this catalog.

## Grades and Academic Standing

Each student must have an overall graduate grade point average of 3.0 or better for all graduate courses undertaken at The University of Alabama. Students may be dismissed from this program for failure to meet the scholastic requirements listed above. Departmental suspension (dismissal) from a degree program also results in suspension from the Graduate School.

See the Grades and Academic Standing section of this catalog.

## Graduate School Deadlines Information

Students should be aware of graduate school deadlines.

## **Application for Graduation Information**

Students will need to submit an Application to Graduate through mybama by the published deadlines.