**AFLS Ph.D. Concentration in Human Nutrition**

**Goal**

To develop future leaders in human nutrition who are equipped to address complex nutrition and human health issues through interdisciplinary engagement in learning and discovery.

**Objectives**

* Provide interdisciplinary education and training in human nutrition and nutritional sciences
* Prepare students for careers conducting nutritional science research in academic, government, healthcare, or industry settings

**Student Learning Outcomes and Assessment**

1. Explain the relationships between nutrition, metabolism, and disease
   * Assessment: academic performance in core courses and written qualifying exam
2. Differentiate between the various research methods used in human nutrition
   * Assessment: academic performance in core courses, written qualifying exam, literature reviews in proposal and dissertation
3. Critically assess published research in human nutrition
   * Assessment: written qualifying exam, literature reviews in proposal and dissertation, oral qualifying exam, dissertation defense
4. Design, perform, and analyze data from original research
   * Assessment: proposal and dissertation, oral qualifying exam, dissertation defense, published dissertation
5. Communicate research results clearly and effectively
   * Assessment: public dissertation presentation and defense, conference presentations, manuscripts submitted for publication
6. Conduct research ethically and responsibly
   * Assessment: completion of research ethics training relevant to research project, evaluation by adviser

**Justification**

Currently, there is not a specific graduate Ph.D. program with a focus on Human Nutrition. However, Arkansas is ranked with the 12th highest obesity rate in children (ages 10-17), 3rd in high school students, and 4th in adults among all states in the U.S. according to the Behavioral Risk Factor Surveillance System (BRFSS)1. Individuals with obesity have an increased risk of developing chronic diseases such as type 2 diabetes mellitus, heart disease, stroke, hypertension, and cancer. Arkansas also leads in heart disease mortality (ranking 3rd in the nation), diabetes (3rd), cancer (7th), and stroke (13th). Thus, there is a critical need to build a graduate nutrition program and produce graduate students who are well-trained in Human Nutrition in order to address these issues. Tuition fees are estimated to be $38,584 (15 credit hours/year x 5 years for in-state tuition for graduate students with 0.5 FTE assistantship). The cost of attendance may be offset by the graduate assistantships (0.5 FTE minimum assistantship is $18540/year plus tuition waiver for doctoral students). With increases in diet-related chronic diseases and health-conscious consumers, there is a growing demand for nutritional scientists in government, academia, community organizations and food industry. The estimated starting salary ranges (big variations based on location and company) are from $55,000 (post-docs) to $100,000 (industry)2-5.

**Language for the Catalog**

Completion of the AFLS Ph.D. with a concentration in Human Nutrition does not meet the eligibility requirements to become a registered dietitian nutritionist (RDN). The Commission on Dietetic Registration (CDR) requires a minimum of a master’s degree plus the completion of supervised practice hours. CDR requires that individuals complete the supervised practice hours in programs accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) for this purpose. This is not provided by the University of Arkansas.

**Prerequisites to Degree Program and Human Nutrition Concentration**

* A Master of Science degree is desirable. A student with a Bachelor of Science and an exceptional record in academics and/or research may be approved for admission to the Ph.D. program in Agricultural, Food and Life Sciences, if the Graduate Student Admissions Committee of the Nutritional Science Concentration deems him/her qualified and approval is granted by the AFLSPH Steering Committee.
* Prerequisite undergraduate coursework:
  + Introductory Biology (3 credits)
  + Physiology (human; 3 credits)
  + Biochemistry (3 credits)
  + Nutrition (human; 3 credits)
  + Statistics (3 credits)
* A minimum grade point average of 3.00 (on a 4.00 scale) on previous college-level coursework

**Admission Requirements**

To be considered for admission, a student must submit:

1. Graduate School application form
2. Official transcripts of all previous college-level coursework
3. Proof of English competency (if English is not the first language)
4. A letter of intent (personal statement) that includes desired degree concentration and areas of interest, strengths and weaknesses, relevant experiences (academic, research, and/or work), potential for future contribution, and career goals
5. Three letters of recommendation are. These letters should address the character and academic capability of the applicant. Applications will first be reviewed by the AFLSPH Steering Committee which will assign the student to the appropriate Graduate Student Concentration Admissions Committee for review. The Human Nutrition Concentration Admissions Committee will make the final determination of admittance into the AFLSPH program in the Human Nutrition concentration.

**Completion Requirements for PhD Degree**

The Human Nutrition Concentration in the Ph.D. program in Agricultural, Food and Life Sciences requires a minimum of 72 credit hours after a Bachelor of Science degree in food science, nutrition, or a closely related field or a minimum of 42 hours after a Master of Science degree in food science, nutrition, or a closely related field.

General course requirements for each degree candidate are arranged on an individual basis by the Faculty Advisor, the Graduate Advisory Committee, and the candidate in accordance with guidelines of their concentration. Alternate courses may be selected at the discretion of the committee.

All students must complete 6 hours of elective course hours and 2 hours of seminar. All students must complete the minimum of 18 credit hours of doctoral dissertation. Students must satisfactorily pass written and oral candidacy examinations covering their discipline and supporting areas. These examinations must be completed at least one year before completion of the Ph.D. degree program in Agricultural, Food and Life Sciences. Each candidate must complete a doctoral dissertation on an important research topic in the concentration field. The specific problem and subject of the dissertation are determined by the faculty advisor, the student, and the Graduate Advisory Committee. A dissertation title must be submitted to the dean of the Graduate School at least one year before the dissertation defense. Provisional approval of the dissertation must be given by all members of the Graduate Advisory Committee prior to the dissertation defense. Students must pass the oral defense and examination of the dissertation given by the Graduate Advisory Committee. A student cannot be approved for conferral of the doctoral degree until after completion of all coursework, written and oral candidacy exams, the defense passed, and dissertation accepted by the Graduate School and an application for the degree has been filed with the Registrar's Office and the fee paid.

**Completion Requirements for Human Nutrition Concentration**

In addition to the general requirements for the Ph.D. program in Agricultural, Food and Life Sciences, students in the Human Nutrition concentration must also complete:

* NUTR 5113 Advanced Nutrition I (Fall)
* NUTR 5233 Advanced Nutrition II (Spring)
* NUTR 5103 Nutrition Research Design and Methodology (Spring) CHEM 5843 – Biochemistry II (Spring)
* Graduate-level Statistics (6 credits)

One course from the following:

* FDSC 6443 Metabolism of Xenobiotics (Fall-Even year)
* FDSC 602V Metabolism and Chronic Disease (Fall-Odd year)

**Leveling Requirements for Nutritional Science Concentration**

Students entering the graduate program who do not have an undergraduate degree in nutrition or closely related field with training and experience will be required to take the following additional courses:

* CHEM 5813 Biochemistry I
* NUTR 5223 Nutrition through the Lifecycle

**References**

1. <https://www.cdc.gov/brfss/index.html>
2. <https://www.niaid.nih.gov/grants-contracts/salary-cap-stipends>
3. <https://ca.indeed.com/Postdoctoral-Position,-Nutrition-jobs?vjk=3d85528d68bad947>
4. <https://www.indeed.com/career-advice/finding-a-job/highest-paying-nutrition-jobs>
5. <https://www.univstats.com/salary/>