NUTRITIONAL SCIENCES

The Department of Nutritional Sciences advances health and quality of life of individuals and communities and prepares professionals through discovery, education, and application of scientific knowledge.

Graduates are prepared to apply nutrition knowledge in dietetic internships, healthcare professional schools, graduate programs, and food and nutrition-related professions. Four degree options and a minor are offered through the department.

The human nutrition/premedical sciences option is ideal for students desiring greater depth in the physiological and biochemical sciences in preparation for medical and other professional schools, graduate study and research in human nutrition. It includes the prerequisites for admission to most medical, dental, optometry and pharmacy schools. The allied health option provides required course work for most nursing schools, physician assistant programs, schools of physical and occupational therapy, dental hygiene and other health professions. The community nutrition option offers coursework for positions in nutrition education, wellness, school food service management and other areas as well as the prerequisites for the MS in Athletic Training. The dietetics option provides the coursework required to become a Registered Dietitian (see OSU Didactic Program in Dietetics below).

The mission of the OSU Didactic Program in Dietetics is to promote human health and quality of life by preparing students for future roles in dietetics and dietetics-related professions. The dietetics profession is diverse and dynamic, integrating human nutrition, food service administration, food science, chemistry, physiology, management and interpersonal skills. The dietetics option is the only option that includes the Didactic Program in Dietetics (DPD) coursework required to apply for competitive dietetic internships (DI). When students successfully complete the academic requirements (DPD) and supervised practice component (DI), they are eligible for the national Registration (CDR) of the Academy of Nutrition and Dietetics (the Academy). Individuals who successfully complete the examination become Registered Dietitians/Nutritionists and are entitled to use the initials “RD” or “RDN” to signify professional competence. Many states, including Oklahoma, also require a license to practice dietetics in the state. Each state law varies in its scope. Didactic Program in Dietetics information and the DPD Student Handbook are found at humansciences.okstate.edu/dpd (https://humansciences.okstate.edu/nsci/undergraduate-students/dietetics-program-osu.html).

The Didactic Program in Dietetics is currently granted continuing accreditation by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, Illinois 60606-6995, 312.899.0040 ext. 5400.

Nutrition professionals work in a wide range of settings, in both the public and private sectors and assume an array of challenging responsibilities. Career opportunities for a registered/licensed dietitian include: health care dietitian and administrator, nutrition researcher, fitness/wellness consultant, public health nutritionist, school nutrition director, Cooperative Extension educator, entrepreneur in dietetic programs and services, and corporate dietitian/nutritionist. DPD Graduates who do not enter dietetic internships may work in related fields which do not require the RD credential such as school food service, Cooperative Extension, pharmaceutical or food sales, food service management and government programs; take the certified dietary manager (CDM) exam; or enter related graduate programs such as Master of Science in Public Health. Upon earning the DPD “verification statement,” students may take the CDR exam to become dietetic technicians, registered (DTR). University teaching and research in the field of nutrition and some specialized careers require advanced degrees or additional course work.

Admission Requirements

Transfer students must have earned a 2.5 retention GPA in order to be admitted to the NSCI undergraduate program.

Further information may be found at humansciences.okstate.edu/nsci (http://humansciences.okstate.edu/nsci).

Dietetic Internship

The dietetic internship (DI) at Oklahoma State University requires a bachelor’s degree and prior completion of the DPD requirements for admission and meets the Academy’s 1200 hour supervised practice requirement for registration eligibility. Its mission is to advance health and quality of life of individuals and communities by preparing dietetic professionals for competent practice through education, discovery and application of scientific knowledge. The internship provides experience in clinical, management, and community practice settings where interns develop entry-level practice competence. Entry into the dietetic internship is competitive, requiring an application to the OSU DI and NSCI Master’s Degree and participation in the Academy of Nutrition and Dietetics computer matching or pre-selection process. All students admitted to the Dietetic Internship must earn the departmental Master of Science in nutritional sciences (nutrition option) or enter with at least an MS which is essentially equivalent to the NSCI MS (nutrition option).

The Dietetic Internship at OSU is currently granted continuing accreditation by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, Illinois 60606-6995, 312.899.0040 ext. 5400.

Dietetic Internship information is found at https://humansciences.okstate.edu/nsci/graduate-students/dietetic-internship.html.

Courses

NSCI 2111 Professional Careers in Nutritional Sciences
Prerequisites: For students interested in Allied Health, Community Nutrition or Nutrition and Exercise or consent of instructor.
Description: Career opportunities in health professions. Roles and responsibilities of health care professionals. Routes to professional memberships and current issues in professionalism. Previously offered as FNIA 2111.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences
NSCI 2112 Foods of the African Diaspora: Chronology, Evolution and Impact
Description: An exploration of the evolution of African American foodways and their physical health impacts within the historical contexts of slavery, emancipation, cultural development, religion, and traditional health beliefs.
Credit hours: 2
Contact hours: Lecture: 2
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 2114 Principles of Human Nutrition (N)
Description: Functions of the nutrients in human life processes. Nutrient relationship to health as a basis for food choices. Open to all University students. Previously offered as NSCI 2123 and FNIA 1113.
Credit hours: 4
Contact hours: Lecture: 3 Other: 1
Levels: Undergraduate
Schedule types: Discussion, Combined lecture & discussion, Lecture
Department/School: Nutritional Sciences
General Education and other Course Attributes: Natural Sciences

NSCI 2211 Professional Careers in Dietetics
Prerequisites: NSCI students or consent of instructor.
Description: Career opportunities in Dietetics. Roles and responsibilities of Dietitians. Routes to professional memberships and current issues in professionalism.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 2850 Special Topics in Nutritional Sciences
Description: Study of specific consumer education issues or topics in nutritional sciences. Offered for variable credit, 1-3 credit hours, maximum of 4 credit hours.
Credit hours: 1-3
Contact hours: Other: 1
Levels: Undergraduate
Schedule types: Independent Study
Department/School: Nutritional Sciences

NSCI 3011 Nutrition and Evidence-based Practice I
Prerequisites: NSCI 2114 and STAT 2013 or STAT 2023.
Description: Understanding basic research designs and methodologies, ethics in research, and the use of research in the development of evidence-based recommendations for healthy individuals, applying statistics, and interpreting data in nutrition research.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 3021 Nutrition and Evidence-based Practice II
Prerequisites: NSCI 3011 and BIOL 3204.
Description: Understanding research focused on pathophysiology of chronic disease and the role of nutrition in the prevention and treatment of these diseases. Course builds on an understanding of physiology and of nutrition research from BIOL 3204 and NSCI 3011. Ethics in research.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 3133 Science of Food Preparation
Prerequisites: HRAD 1113, NSCI 2114, CHEM 3015.
Description: Scientific principles underlying functions of food ingredients, recipe/menu modification, diet management for disease states and food safety.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 3
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Nutritional Sciences

NSCI 3223 Nutrition Across the Life Span
Prerequisites: NSCI 2114 or equivalent.
Description: Nutritional needs and dietary concerns of individuals from conception through old age. Previously offered as NSCI 4223 and FNIA 4223.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 3440 Nutritional Sciences Pre-Professional Experience
Prerequisites: HS 1112 or HS 3112 (or concurrent).
Description: Student-arranged, instructor-approved, job shadowing, work or volunteer experience in professional settings related to the Nutritional Sciences option. Forty hours of experience required per credit hour. Offered for variable credit, 1-3 credit hours, maximum of 3 credit hours.
Credit hours: 1-3
Contact hours: Other: 1
Levels: Undergraduate
Schedule types: Independent Study
Department/School: Nutritional Sciences

NSCI 3543 Food and the Human Environment (IS)
Description: Impact of the various factors that affect food availability, production, processing, distribution and consumption of food in the world. International cultures and foods. Challenges of and solutions to the world food crisis. Previously offered as FNIA 3543.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences
General Education and other Course Attributes: International Dimension, Social & Behavioral Sciences
**NSCI 3813 Nutrition Assessment and Counseling Skills**
**Prerequisites:** NSCI 2114 and NSCI 3223 and HDFS 2113 and PSYC 1113; or consent of instructor.
**Description:** Theory and practice of counseling and interviewing skills as applied to nutrition counseling. Collection and interpretation of anthropometric, biochemical and dietary data necessary to determine nutritional status. Previously offered as NSCI 3812.
**Credit hours:** 3
**Contact hours:** Lecture: 2 Lab: 2
**Levels:** Undergraduate
**Schedule types:** Lab, Lecture, Combined lecture and lab
**Department/School:** Nutritional Sciences

**NSCI 3991 Dietetics Career Experience**
**Description:** Observational career experience in various settings with practicing registered dietitians.
**Credit hours:** 1
**Contact hours:** Lecture: 1
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

**NSCI 4013 Experimental Foods**
**Prerequisites:** NSCI 3133 or consent of instructor.
**Description:** Investigations in physical, chemical and sensory, and functional properties of foods and their ingredients. Research project applying food science and nutrition principles to product development. Previously offered as FNIA 4013.
**Credit hours:** 3
**Contact hours:** Lecture: 2 Lab: 3
**Levels:** Graduate, Undergraduate
**Schedule types:** Lab, Lecture, Combined lecture and lab
**Department/School:** Nutritional Sciences

**NSCI 4021 Nutrition and Evidence-based Practice III**
**Prerequisites:** NSCI 3011 and NSCI 3021.
**Description:** In-depth study of major controversial issues in the field of nutrition. Course builds on understanding of nutrition research from NSCI 3011 and 3021. Review and analysis of current research. Ethics in research.
**Credit hours:** 1
**Contact hours:** Lecture: 1
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

**NSCI 4023 Nutrition in the Pathophysiology of Chronic Disease**
**Prerequisites:** NSCI 2114, NSCI 3011, NSCI 3223 and BIOL 3204.
**Description:** Analysis of the role of dietary bioactive components in health maintenance and chronic disease prevention. Communication of evidence-based nutrition information to the public.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

**NSCI 4111 Professional Preparation for Careers in Dietetics**
**Prerequisites:** NSCI 4854 or concurrent, or consent of instructor.
**Description:** Preparation of supervised practice applications and supporting documents. Options for professional credentials, graduate school, and careers. Professional issues in dietetics.
**Credit hours:** 1
**Contact hours:** Lecture: 1
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

**NSCI 4123 Human Nutrition and Metabolism I**
**Prerequisites:** NSCI 2114 and CHEM 3015 or 3053 and BIOL 3204 or consent of instructor.
**Description:** Examine the chemical characteristics and functions of macronutrients; digestion, absorption, transport and metabolism of macronutrients; control of intermediary metabolism and metabolic pathways. No credit for students with degree credit in NSCI 5303.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

**NSCI 4133 Nutrition for Exercise and Sport**
**Prerequisites:** HHP 3114, NSCI 4123 and BIOC 3653 or consent of instructor.
**Description:** Application of principles of nutrient metabolism as they relate to physical activity, sport and health.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

**NSCI 4143 Human Nutrition and Metabolism II**
**Prerequisites:** NSCI 4123 or consent of instructor.
**Description:** Chemical characteristics, absorption, transport, functions, requirements and health implications of vitamins and minerals. Discussion of phytochemicals and supplements in relation to health maintenance and disease prevention. No credit for students with degree credit in NSCI 5353.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

**NSCI 4147 Human Nutrition and Metabolism III**
**Prerequisites:** NSCI 4143 or consent of instructor.
**Description:** Examination of the role of dietary bioactive components in health maintenance and chronic disease prevention. Communication of evidence-based nutrition information to the public.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

**NSCI 4323 Human Nutrition and Metabolism**
**Prerequisites:** BIOL 3204, BIOC 3653 or concurrent and NSCI 2114 or consent of instructor.
**Description:** Digestion, absorption and metabolism of nutrients; functions and health implications in the human organism. Previously offered as FNIA 4323.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Undergraduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences
NSCI 4331 Quantity Food Production Practicum
Prerequisites: NSCI 2114, HRAD 1113, HRAD 2021, HRAD 3213 or
MGMT 3013, restricted to NSCI majors.
Description: Observation and practice in real-life-quantity food production
settings. Students will need immunizations, TB tests, and background
checks completed before the semester of enrollment in the course.
Credit hours: 1
Contact hours: Other: 3
Levels: Undergraduate
Schedule types: Independent Study
Department/School: Nutritional Sciences

NSCI 4373 Principles of Nutrition Education and Counseling
Prerequisites: NSCI 2114 and NSCI 3011 and NSCI 3223 or consent of
instructor.
Description: Analysis of various methods, strategies, theories, resources
and evaluation methods for nutrition education. Principles of effective
nutrition counseling. Overview of community nutrition programs.
Previously offered as FNIA 4373.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 4573 Management in Dietetics
Prerequisites: ACCT 2103 or HRAD 2153; and HRAD 3213 or MGMT 3013.
Description: Management practices in the field of dietetics including
program, clinical and food systems management. Additional flat fee of
$20.00 applies.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 4643 Capstone for Nutritional Sciences
Prerequisites: Senior standing in NSCI or consent of instructor.
Description: Integration of the body of knowledge in nutritional sciences.
Examination of the research basis for defining and solving critical issues.
Oral and written reports.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 4733 Community Nutrition
Prerequisites: NSCI 2114 and NSCI 3223 or consent of instructor.
Description: Application of nutrition, education and communication
principles to community nutrition programs and services. Field work
required. Previously offered as FNIA 4733.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 4850 Special Unit Studies in Nutritional Sciences
Description: Special units of study in nutritional sciences. Offered for
variable credit, 1-3 credit hours, maximum of 6 credit hours.
Credit hours: 1-3
Contact hours: Other: 1
Levels: Graduate, Undergraduate
Schedule types: Independent Study
Department/School: Nutritional Sciences

NSCI 4854 Medical Nutrition Therapy I
Prerequisites: NSCI 3223, NSCI 3813 and NSCI 4123 or NSCI 4323 or
concurrent enrollment.
Description: Physiological and metabolic bases for dietary modifications
in disease states. Previously offered as NSCI 4853.
Credit hours: 4
Contact hours: Lecture: 4
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 4864 Medical Nutrition Therapy II
Prerequisites: NSCI 4854.
Description: A continuation of NSCI 4854, Medical Nutrition Therapy I.
Previously offered as NSCI 4863 and NSCI 4852.
Credit hours: 4
Contact hours: Lecture: 4
Levels: Undergraduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 4900 Honors Creative Component
Prerequisites: College of Human Sciences Honors Program participation,
senior standing.
Description: Guided creative component for students completing
requirements for College Honors in College of Human Sciences. Thesis,
creative project or report under the direction of a faculty member in the
major area, with second faculty reader and oral exam. Offered for variable
credit, 1-3 credit hours, maximum of 3 credit hours.
Credit hours: 1-3
Contact hours: Other: 1
Levels: Undergraduate
Schedule types: Independent Study
Department/School: Nutritional Sciences

NSCI 4950 Master's Thesis
Prerequisites: Consent of adviser.
Description: Individual research and thesis that will fulfill the
requirements for the master's degree. Offered for variable credit, 1-6
credit hours, maximum of 6 credit hours.
Credit hours: 1-6
Contact hours: Other: 1
Levels: Graduate
Schedule types: Independent Study
Department/School: Nutritional Sciences

NSCI 5011 Special Topics in Nutritional Sciences
Prerequisites: Consent of instructor.
Description: Orientation to graduate study and research in nutritional
sciences.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences
Nutritional Sciences

NSCI 5012 Public Policy Development in Food, Nutrition and Related Programs
Description: Rationale underlying governmental programs in food and nutrition and human sciences and assessment of the effectiveness of the programs.
Credit hours: 2
Contact hours: Lecture: 2
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5013 Financial Management and Cost Controls in Dietetics
Prerequisites: Admission to Great Plains IDEA online MS in Dietetics or consent of instructor.
Description: An overview of accounting, cost controls, and financial management in food service. Special emphasis placed on understanding the topics and applying them to the theoretical and/or practical research for food service systems. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5023 Advanced Nutrition in the Pathophysiology of Chronic Disease
Prerequisites: NSCI 2114, NSCI 3011, NSCI 3223 and BIOL 3204.
Description: In-depth study of the pathophysiology of chronic diseases and the role of dietary bioactive components in health maintenance and disease prevention.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5033 Macronutrients in Human Nutrition
Prerequisites: Biochemistry and advanced human nutrition/metabolism, or consent of instructor.
Description: Characteristics, biological roles, digestion, absorption, transport and metabolism of the macronutrients. Previously offered as NSCI 6023.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5043 Micronutrients in Human Nutrition
Prerequisites: NSCI 5033 or consent of instructor.
Description: In-depth study of vitamins and minerals and their interrelationships in metabolism. Previously offered as NSCI 6123.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5053 Functional Foods for Chronic Disease Prevention
Prerequisites: Admission to Great Plains IDEA MS in Dietetics or consent of instructor.
Description: Integrate and evaluate the regulatory principles, food science, nutrient science and nutritional metabolism for the development of functional foods, nutraceuticals, and dietary supplements for chronic disease prevention. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5103 Grant Writing for the Professional
Prerequisites: Admission to the Great Plains IDEA online MS in Dietetics or consent of instructor.
Description: Grant proposal preparation experience including written critique of proposals and budget planning. Designed for the working professional. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5123 Research Methods in Nutritional Sciences
Description: Basic components of the research process and application of research methods to nutritional sciences.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5133 Advanced Nutrition for Exercise and Sport
Prerequisites: Intro nutrition and biochemistry or consent of instructor.
Description: Advanced study of nutrition and metabolism relating to physical activity, sports and health.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5203 Nutrition in Wellness
Prerequisites: Admission to the Great Plains IDEA online MS in Dietetics or consent of instructor.
Description: Wellness promotion through nutrition. Nutritional risk and protective factors will be examined as they relate to public health and individual nutrition. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5114 NSCI 2114, NSCI 3011, NSCI 3223 and BIOL 3204.
NSCI 5210 Contemporary Issues in Food Service
Prerequisites: Admission to the Great Plains IDEA online MS in Dietetics program or consent of instructor.
Description: Contemporary issues in food service in dietetics; formulation of innovative solutions and processes to enhance effectiveness in the workplace. Previously offered as NSCI 5211. Offered for variable credit, 3-9 credit hours, maximum of 9 credit hours.
Credit hours: 3-9
Contact hours: Other: 3
Levels: Graduate
Schedule types: Independent Study
Department/School: Nutritional Sciences

NSCI 5213 Entrepreneurship in Food Service and Dietetics
Prerequisites: Admission to Great Plains IDEA online MS in Dietetics.
Description: An overview of entrepreneurship, characteristics of entrepreneurs and small business development within the context of food service and dietetics. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5223 Advanced Nutrition Across the Life Span
Prerequisites: Admission to the Great Plains IDEA online MS in Dietetics.
Description: Examination of the influence of normal physiological stresses on nutritional needs throughout the life span. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5240 Contemporary Issues in Nutrition
Prerequisites: Enrolled in Great Plains IDEA online MS in Dietetics.
Description: Contemporary issues in nutrition. Web-based instruction. Offered for variable credit, 3-9 credit hours, maximum of 9 credit hours.
Credit hours: 3-9
Contact hours: Other: 3
Levels: Graduate
Schedule types: Independent Study
Department/School: Nutritional Sciences

NSCI 5313 Dietary and Herbal Supplements
Prerequisites: Human Physiology or consent of instructor.
Description: Explore the safety and efficacy of botanical/herbal and dietary supplements in health applications including dietary supplementation in the prevention and treatment of chronic disease. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5323 Nutrition and Physical Activity in Aging
Description: Basic physiological changes during aging and their impact in health and disease. Successful aging with emphasis on physical activity and nutrition. Practical application to community settings. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5333 Human Nutrition and Metabolism
Prerequisites: Intro nutrition, organic chemistry, biochemistry and physiology.
Description: Digestion, absorption and metabolism of nutrients; functions and health implications in the human organism.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5353 Human Nutrition and Metabolism II
Prerequisites: Introductory nutrition, organic chemistry, biochemistry and physiology.
Description: Chemical characteristics, absorption, transport, functions, requirements and health implications of vitamins and minerals. Discussion of phytochemicals and supplements in relation to health maintenance and disease prevention. No credit for students with degree credit in NSCI 4143.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5363 Maternal and Infant Nutrition
Prerequisites: NSCI 2114 or equivalent.
Description: Nutritional needs and dietary concerns during pregnancy, lactation and the first year of life. Implications for nutrition intervention, education and policy.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5373 Human Nutrition and Metabolism
Prerequisites: NSCI 2114 or equivalent.
Description: Nutritional needs and dietary concerns during pregnancy, lactation and the first year of life. Implications for nutrition intervention, education and policy.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
<th>Credit hours</th>
<th>Contact hours</th>
<th>Levels</th>
<th>Schedule types</th>
<th>Department/School</th>
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</thead>
<tbody>
<tr>
<td>NSCI 5373</td>
<td>Childhood Nutrition</td>
<td>NSCI 2114 or consent of instructor.</td>
<td>Normal nutritional needs of children, preschool through grade 12. Dietary implications for child care programs, school food service and parent education.</td>
<td>3</td>
<td>Lecture: 3</td>
<td>Graduate</td>
<td>Lecture</td>
<td>Nutritional Sciences</td>
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<tr>
<td>NSCI 5393</td>
<td>Nutrition and Aging</td>
<td>NSCI 2114 or equivalent.</td>
<td>Nutritional needs, and dietary concerns of the elderly. Implications for food and nutrition programs, policies, research and education.</td>
<td>3</td>
<td>Lecture: 3</td>
<td>Graduate</td>
<td>Lecture</td>
<td>Nutritional Sciences</td>
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<tr>
<td>NSCI 5403</td>
<td>Contemporary Issues in Dietetics Practice</td>
<td>Acceptance as a dietetic intern.</td>
<td>Contemporary issues in the practice of dietetics; innovative solutions and processes to enhance effectiveness in the workplace.</td>
<td>3</td>
<td>Lecture: 3</td>
<td>Graduate</td>
<td>Lecture</td>
<td>Nutritional Sciences</td>
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<tr>
<td>NSCI 5412</td>
<td>Dietetic Internship Management Practicum</td>
<td>Acceptance as a dietetic intern.</td>
<td>Supervised learning experiences in approved food service management for the achievement of performance requirements for entry level dietitians. Graded on a pass-fail basis.</td>
<td>2</td>
<td>Lecture: 2</td>
<td>Graduate</td>
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<td>Nutritional Sciences</td>
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<td>NSCI 5422</td>
<td>Dietetic Internship Clinical Practicum</td>
<td>Acceptance as a dietetic intern.</td>
<td>Supervised learning experiences in approved clinical for the achievement of performance requirements for entry level dietitians. Graded on a pass-fail basis.</td>
<td>2</td>
<td>Lecture: 2</td>
<td>Graduate</td>
<td>Lecture</td>
<td>Nutritional Sciences</td>
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<tr>
<td>NSCI 5423</td>
<td>Food Writing for Professionals</td>
<td>Admission to Great Plains IDEA MS in Dietetics or consent of instructor.</td>
<td>Writing skills needed by the food professional in order to communicate effectively in writing about food and food-related topics. Includes hands-on projects in research and writing for various audiences and types of publications. Web-based instruction.</td>
<td>3</td>
<td>Lecture: 3</td>
<td>Graduate</td>
<td>Lecture</td>
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<td>NSCI 5432</td>
<td>Dietetic Internship Community Nutrition Practicum</td>
<td>Acceptance as a dietetic intern.</td>
<td>Supervised learning experiences in approved community nutrition settings for the achievement of performance requirements for entry level dietitians. Graded on a pass-fail basis.</td>
<td>2</td>
<td>Lecture: 2</td>
<td>Graduate</td>
<td>Lecture</td>
<td>Nutritional Sciences</td>
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<tr>
<td>NSCI 5443</td>
<td>Nutrigenomics and Nutrigenetics</td>
<td>Admission to Great Plains IDEA MS in Dietetics or consent of instructor.</td>
<td>Fundamental concepts of the ways in which nutrients regulate gene expression (nutrigenomics) and how an individual’s genotype influences their nutrient requirements (nutrigenetics). Includes a focus on the role of lipids in nutritional genomics. Web-based instruction.</td>
<td>3</td>
<td>Lecture: 3</td>
<td>Graduate</td>
<td>Lecture</td>
<td>Nutritional Sciences</td>
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<tr>
<td>NSCI 5453</td>
<td>Nutrition and Health Disparities</td>
<td>Admission to Great Plains IDEA MS in Dietetics or consent of instructor.</td>
<td>Examination of nutrition and health disparities in the U.S. Identification of sociocultural determinants of health and their influence on nutrition and health outcomes. Exploration of interdisciplinary strategies to reduce nutrition and health disparities. Web-based instruction.</td>
<td>3</td>
<td>Lecture: 3</td>
<td>Graduate</td>
<td>Lecture</td>
<td>Nutritional Sciences</td>
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NSCI 5473 Pediatric Clinical Nutrition
Prerequisites: Admission to Great Plains IDEA MS in Dietetics or consent of instructor.
Description: Examination of the physiological, biochemical and nutritional aspects of disease processes relevant to infants and children up to 18 years of age. Medical nutrition therapy for a variety of medical conditions found in this population including inborn errors of metabolism, food hypersensitivity, obesity and diseases of the major organ systems. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5513 Public Health Nutrition
Prerequisites: Admission to Great Plains IDEA MS in Dietetics or consent of instructor.
Description: Information and activities related to public health nutrition with focus on how nutrition research, policies and programs impact populations. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5543 Obesity Prevention Across the Lifespan
Prerequisites: Admission to Great Plains IDEA MS in Dietetics or consent of instructor.
Description: Obesity in the population from childhood to the adult age groups. Examination of the impact of obese conditions on disease development throughout the life span. Critical analysis of prevention efforts and interventions used in the behavioral and clinical management of overweight and obese individuals in community and clinical settings.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5553 Global Nutrition and Food Security
Description: Advanced study of the magnitude, causes, and nature of hunger and under-nutrition in low income countries; emphasis on programs, policies and planning directed toward alleviating hunger and malnutrition.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5553 Nutritional Assessment
Prerequisites: Lifespan nutrition, human nutrition & metabolism, or equivalent.
Description: Dietary, physical, and biochemical assessment techniques and their application to patient or client nutritional status assessment in health care systems.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5613 Advanced Nutrition Education and Counseling
Prerequisites: Consent of instructor.
Description: Analysis of various learning and behavior change theories and application in nutrition education.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5643 Advanced Medical Nutrition Therapy
Prerequisites: Admission to dietetic internship or consent of instructor.
Description: Physiological and metabolic bases for nutritional support in disease.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5673 Human Resources
Prerequisites: Admission to Great Plains IDEA online MS in Dietetics or consent of instructor.
Description: Future role, focus, practices and governance of human resources in health care.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5683 Fundamentals of Leadership in Dietetics
Prerequisites: Admission to Great Plains IDEA online MS in Dietetics or consent of instructor.
Description: Study of the key issues in the theory, research, and application of leadership within the context of dietetics practice. Includes defining leadership, understanding situational characteristics that facilitate/hinder effective leadership, understanding effective/dysfunctional leadership, and gaining greater insight into one’s own leadership style and functioning. Web-based instruction.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences

NSCI 5693 Advanced Community Nutrition
Prerequisites: NSCI 2114, NSCI 3223 and NSCI 4733 or equivalent or consent of instructor.
Description: Current issues in community nutrition with emphasis on program development and evaluation of community nutrition programs. Analysis of the impact of economic, political, legislative and cultural diversity factors in the field of community nutrition.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Nutritional Sciences
### NSCI 5743 Advanced Laboratory Techniques in Nutritional Sciences
**Prerequisites:** A course in biochemistry and a course in statistics.
**Description:** An integrated lecture and laboratory course examining the basic theories and techniques used in experimental nutritional sciences. Application of a range of biochemical and molecular biological techniques as they are currently applied to modern biomedical research. Additional flat fee of $45.00 applies.
**Credit hours:** 3
**Contact hours:** Lecture: 2 Lab: 2
**Levels:** Graduate
**Schedule types:** Lab, Lecture, Combined lecture and lab
**Department/School:** Nutritional Sciences

### NSCI 5753 Health Care Administration
**Prerequisites:** Consent of instructor.
**Description:** Overview of U.S. and international health care systems, Administrative roles of health care professionals and how they affect patient health and health care delivery in various settings.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

### NSCI 5783 Food Technology
**Prerequisites:** Consent of instructor; graduate standing.
**Description:** Principles and pertinent issues in food technology, including concepts, experimental and product design, process development, evaluation, packaging and marketing. Web-based instruction.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

### NSCI 5843 Non-Thesis Creative Component
**Prerequisites:** Final semester and consent of instructor.
**Description:** A guided course serving as the final requirement for graduate students in NSCI's Master of Science degree, non-thesis option. Not recommended for students interested in pursuing a PhD. Previously offered as NSCI 5840.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

### NSCI 5863 Sensory Evaluation of Food
**Prerequisites:** NSCI 4013 or consent of instructor.
**Description:** Critical discussion and directed study of current literature and concepts in the nutritional control of gene expression and regulation of energy homeostasis from the cellular to organismal level.
**Credit hours:** 3
**Contact hours:** Lecture: 1 Lab: 4
**Levels:** Graduate
**Schedule types:** Lab, Lecture, Combined lecture and lab
**Department/School:** Nutritional Sciences

### NSCI 5870 Problems in Nutritional Sciences
**Description:** Analysis of emerging problems and trends in nutritional sciences. Offered for variable credit, 1-4 credit hours, maximum of 6 credit hours.
**Credit hours:** 1-4
**Contact hours:** Other: 1
**Levels:** Graduate
**Schedule types:** Independent Study
**Department/School:** Nutritional Sciences

### NSCI 5960 Master's Seminar in Nutritional Sciences
**Prerequisites:** NSCI graduate students.
**Description:** Individual and group seminars on current issues and research in nutritional sciences. Previously offered as NSCI 5961. Offered for fixed credit, 1 credit hour, maximum of 2 credit hours.
**Credit hours:** 1
**Contact hours:** Other: 1
**Levels:** Graduate
**Schedule types:** Discussion
**Department/School:** Nutritional Sciences

### NSCI 5963 Environmental Scanning and Analysis
**Prerequisites:** Admission to Great Plains IDEA online MS in Dietetics or consent of instructor.
**Description:** Discussion of changes in the economic, social, ethical, political, legal, technological, and ecological environments in which dietitians practice. Implications of these changes for education, practice and research within the field with particular emphasis on the healthcare industry. Web-based instruction.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences

### NSCI 6000 Doctoral Dissertation
**Prerequisites:** Consent of major professor.
**Description:** Offered for variable credit, 1-12 credit hours, maximum of 45 credit hours.
**Credit hours:** 1-12
**Contact hours:** Other: 1
**Levels:** Graduate
**Schedule types:** Independent Study
**Department/School:** Nutritional Sciences

### NSCI 6022 Advanced Energy Metabolism
**Prerequisites:** NSCI 5033 and NSCI 5043
**Description:** Critical discussion and directed study of current literature and concepts in the nutritional control of gene expression and regulation of energy homeostasis from the cellular to organismal level.
**Credit hours:** 2
**Contact hours:** Lecture: 2
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Nutritional Sciences
NSCI 6033 Phytochemicals  
Prerequisites: Advanced human nutrition/metabolism or consent of instructor.  
Description: Identification of basic structural, functional and metabolic properties of phytochemicals (substances in plants that have been linked to reducing chronic disease). Special attention placed on health benefits and chronic disease risk reduction.  
Credit hours: 3  
Contact hours: Lecture: 3  
Levels: Graduate  
Schedule types: Lecture  
Department/School: Nutritional Sciences  

NSCI 6223 Nutrition in Immunology  
Prerequisites: NSCI 5043 or consent of instructor.  
Description: Principles and issues related to nutrition and immunology. Impact of nutrients and nutritional status on integrity of the immune system.  
Credit hours: 3  
Contact hours: Lecture: 3  
Levels: Graduate  
Schedule types: Lecture  
Department/School: Nutritional Sciences  

NSCI 6243 Nutrition and Cancer  
Description: Examination of basic cancer biology and methodology used to study nutrition and cancer relationships. The role of nutrition in specific cancers, cancer prevention and cancer treatment will be explored.  
Credit hours: 3  
Contact hours: Lecture: 3  
Levels: Graduate  
Schedule types: Lecture  
Department/School: Nutritional Sciences  

NSCI 6453 Advanced Research Methods in Nutritional Sciences  
Description: Components of the research process for students who have completed an advanced degree. Development, application and interpretation of research methodology.  
Credit hours: 3  
Contact hours: Lecture: 3  
Levels: Graduate  
Schedule types: Lecture  
Department/School: Nutritional Sciences  

NSCI 6643 Clinical Aspects of Nutrition Support  
Prerequisites: Consent of instructor  
Credit hours: 3  
Contact hours: Lecture: 3  
Levels: Graduate  
Schedule types: Lecture  
Department/School: Nutritional Sciences  

NSCI 6870 Independent Study in Nutritional Sciences  
Description: In-depth analysis of research issues in nutritional sciences. Offered for variable credit, 1-3 credit hours, maximum of 6 credit hours.  
Credit hours: 1-3  
Contact hours: Other: 1  
Levels: Graduate  
Schedule types: Independent Study  
Department/School: Nutritional Sciences  

NSCI 6960 Seminar: Emerging Topics in Nutrition  
Description: Critical evaluation of research in nutritional sciences. Individual and group seminars on selected topics. Previously offered as NSCI 6961. Offered for fixed credit, 1 credit hour, maximum of 4 credit hours.  
Credit hours: 1  
Contact hours: Other: 1  
Levels: Graduate  
Schedule types: Discussion  
Department/School: Nutritional Sciences  

Undergraduate Programs  
- Nutritional Sciences (NSCI), Minor (http://catalog.okstate.edu/human-sciences/nutritional-sciences/minor)  
- Nutritional Sciences: Dietetics, BSHS (http://catalog.okstate.edu/human-sciences/nutritional-sciences/dietetics-bshs)  

Graduate Programs  
The Department of Nutritional Sciences offers graduate study leading to a Master of Science degree in nutritional sciences and a Doctor of Philosophy degree in nutritional sciences. Graduate study in NSCI emphasizes the conduct and application of research to the field of human nutrition. Graduate students work with an adviser and advisory committee to develop flexible, yet rigorous programs of study and research that meet the degree requirements and each student’s professional goals within an area of specialization in the field.  

The Master of Science Degree  
The MS degree program is designed to develop research skills, stimulate independent thought and critical thinking, and provide up-to-date knowledge in a variety of areas of human nutrition. Admission to the MS graduate program is selective and is based on a variety of factors including the student’s grade-point average (overall and science GPA), Graduate Record Examination (GRE) scores, letters of recommendation and goal statement. The prerequisite for the MS program is a BS in nutritional sciences. Students with a BS degree in a subject area other than nutrition are required to have a minimum of 30 credit hours of undergraduate/graduate course work related to nutritional sciences, including at least one course in biochemistry, one course in physiology and one upper-level nutrition course prior to full admission. Applicants who do not meet these requirements may be considered for conditional
acceptance and required to take prerequisite courses and/or demonstrate academic ability.

Students in the MS program—nutrition option can choose one of two tracks: thesis or non-thesis. The MS degree with thesis requires a minimum of 30 credit hours, including six credit hours for thesis research (NSCI 5000 Master's Thesis). Thesis research is conducted within the advisor’s area of interest and is approved by an advisory committee. The non-thesis MS degree requires a minimum of 34 credit hours with three credit hours of NSCI 5843 Non-Thesis Creative Component, including a comprehensive examination, a written research paper, and an oral presentation. The student’s plan of study and research is determined in consultation with his/her advisor and advisory committee.

An online Master of Science degree in nutritional sciences with an option in dietetics is also offered to Registered Dietitians (RD) or individuals who are RD eligible. OSU offers this degree program as a member of the Great Plains Interactive Distance Education Alliance (Great Plains IDEA) which provides the opportunity for Registered Dietitians to study with faculty from eight universities in the Alliance via Internet-based courses. The MS in Dietetics requires completion of 36 credit hours, including nine core credits, six OSU Nutritional Sciences Core credits, 18 elective credits and NSCI 5843 Non-Thesis Creative Component. A faculty advisor and the graduate committee from the Nutritional Sciences department must approve a student’s program of study. More detailed information can be found at: gpidea.okstate.edu (http://gpidea.okstate.edu).

The Doctor of Philosophy Degree

The PhD degree is awarded in nutritional sciences. Two programs are available: a 60 hour program for MS graduates and a 90 hour program for BS graduates. The focus of the program is to prepare individuals for careers in a variety of areas including higher education, industry, healthcare and governmental programs. Admission to the program is competitive, and applicants are expected to provide evidence of exceptional academic ability and preparation, a statement of goals and letters of recommendation. Grade-point average in previous undergraduate, professional school and graduate course work and Graduate Record Examination (GRE) scores are considered in the evaluation of the applicant. If a thesis was not required as a component of the applicant’s MS program, a thesis or equivalent must be completed in addition to the requirements for the doctoral degree. Prerequisite course work for full admittance to the PhD program includes at least one graduate or undergraduate course in biochemistry and physiology, six credit hours at the graduate level in nutrition and three credit hours of statistics. Students with MS degrees in a subject area other than nutrition will also be required to have a minimum of 30 credit hours of undergraduate/graduate course work related to nutritional sciences, including the prerequisite courses listed above. Applicants who do not meet these requirements may be considered for conditional acceptance and required to take additional prerequisite courses.

The PhD program includes a strong emphasis on research in areas ranging from basic molecular and cellular sciences to clinical and community applications. Students also gain experience in resource generation, knowledge sharing and community engagement. Each program of study is designed by the student under direction of his/her faculty adviser and advisory committee to develop the student's competence in an area of specialization and research methodologies. Doctoral training includes 15-30 hours of dissertation research, a qualifying examination covering core nutrition knowledge, a comprehensive examination focused on the area of specialization and participation in research throughout the program.

More detailed information on graduate study in the Department of Nutritional Sciences can be obtained by writing the graduate coordinator, or accessing the website at humansciences.okstate.edu/nsci (http://humansciences.okstate.edu/nsci).

Faculty

Stephen Clarke, PhD, RD—Professor and Interim Department Head
Regents Professor and Marilyn Thoma Chair: Barbara J. Stoecker, PhD, RD/LD, FAND
Regents Professor and John and Sue Taylor Endowed Professor and Associate Dean Graduate College: Brenda Smith, PhD
Professor and Graduate Coordinator: Gail Gates, PhD, RD, FAND
Professor and Jim and Lynne Williams Endowed Professor: Edralin Lucas, PhD
Professor: Janice Hermann, PhD, RD/LD
Associate Professor and Associate Department Head: Deana Hildebrand, PhD, RD/LD
Associate Professors: Barbara Brown, PhD, RD/LD; Tay Kennedy, PhD, RD/LD;
Assistant Professors: Winyoo Chowanadisai, PhD; Sam Emerson, PhD; Dingbo (Daniel) Lin, PhD; McKale Montgomery, PhD, RD
Teaching Assistant Professor: Lauren Amaya, PhD, RD/LD
Teaching Instructor: Michael Rhone, MS, RD
Teaching Assistant Professor and Director of Dietetic Internship: Gena Wollenberg, PhD, RD/LD
Director of Didactic Program in Dietetics and Assistant Director of Dietetic Internship: Carol Beier, MS, RD/LD
Instructors: Shannon Campbell, MS, RD; Embrey Pollet, MS, RD
Associate Extension Specialist and CNEP Coordinator: Debra Garrard Foster, MS
Assistant State Specialists and CNEP Nutritionist: Diana Romano, MS/RD/LD
Visiting Assistant Professor: Shirley Evans, PhD, PA, RD/LD