NUTRITION AND FOOD SCIENCE

Office: 3009 Science Hall; 313-577-2500
Chairperson: Ahmad R. Heydari
Graduate Officer: Diane Cress
http://www.clas.wayne.edu/NFS/

BEAVERS, ALYSSA: Ph.D., Michigan State University; M.S., R.D., Iowa State University; Assistant Professor
BURGHARDT, PAUL: Ph.D., M.S., University of South Carolina; Assistant Professor
DIANE, CABELOF: Ph.D., Wayne State; M.A. Immaculate College; B.A., Allegheny College; Associate Professor
DROGAS, FREDRICK J.: M.S., Wayne State University; Lecturer
GUPTA, SMITI: Ph.D., M.S., Wayne State University; B.S., Panjab University; Associate Professor
HEYDARI, AHMAD: Ph.D., M.S., Illinois State University; B.A., Illinois University; Professor and Chair
JEN, K-L CATHERINE: Ph.D., M.A. Wayne State University; B.S., University of Taiwan; Professor
KHOSLA, PRAMOD: Ph.D., University of Western Ontario; M.Sc., B.Sc., Newcastle University; Associate Professor
REINHARD, TONIA: M.S., Wayne State University; Lecturer
WIDTH, MARY: M.S., Central Michigan University; Lecturer
XU, SUXUAN: Ph.D., The University of Georgia; Lecturer
ZHANG, YIFAN: Ph.D., University of Maryland; Associate Professor
ZHOU, KEQUAN: Ph.D., University of Maryland; Professor

• Nutrition and Food Science (M.A.) (http://bulletins.wayne.edu/graduate/college-liberal-arts-sciences/nutrition-food-science/nutrition-food-sciences-ma)
• Nutrition and Food Science (M.S.) (http://bulletins.wayne.edu/graduate/college-liberal-arts-sciences/nutrition-food-science/nutrition-food-sciences-ms)
• Nutrition and Food Science and Public Health (M.A./M.P.H. Joint Degree) (http://bulletins.wayne.edu/graduate/college-liberal-arts-sciences/nutrition-food-science/nutrition-food-science-public-health-mamph)
• Nutrition and Food Science (Ph.D.) (http://bulletins.wayne.edu/graduate/college-liberal-arts-sciences/nutrition-food-science/nutrition-food-science-phd)

NFS 5130 Food Chemistry Cr. 3
Study of the chemical constituents of foods, their relationship to the biological and physical properties, and overall food quality. Offered Fall, Winter.
Prerequisites: CHM 2220 with a minimum grade of C- (must be taken at WSU) and NFS 2130 with a minimum grade of C-

NFS 5140 Laboratory Techniques in Nutrition and Food Science Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Basic modern and classical analytical techniques and instruments in nutrition and food science. Background theory to principles of instrumental assays. Procedures for evaluation of macro and micro food components analysis. Physiological functions relevant to nutrition. Offered Fall.
Prerequisites: CHM 2220 with a minimum grade of D, NFS 2130 with a minimum grade of C-, and NFS 2220 with a minimum grade of C-
Course Material Fees: $90

NFS 5170 Nutrition, Physical Activity, and the Brain Cr. 3
Neurobehavioral responses and adaptations to dietary constituents and physical activity/inactivity. Offered Fall.
Prerequisite: NFS 3230 with a minimum grade of C- or BIO 3200 with a minimum grade of C- or PSY 3330 with a minimum grade of C-

NFS 5200 Advanced Dietetics Cr. 3
Development and refinement of dietetic practitioner skills through application in critical care and specialty practice areas such as nutrition support, renal, oncology, pulmonary, stress and trauma. Offered Fall.
Prerequisite: NFS 4100 with a minimum grade of B- and NFS 4120 with a minimum grade of B- and NFS 5250 with a minimum grade of B- and NFS 4210 (may be taken concurrently) with a minimum grade of B-
Restrictions: Enrollment limited to students in a PBC in Dietetics degree.
Course Material Fees: $90
Equivalent: NFS 4200
NFS 5220 Community Nutrition Cr. 2
Introduction to management of nutritional care in healthy and at-risk persons throughout the lifespan. Identifying problems and planning interventions to meet population nutritional problems and to reduce nutrition-related health risks in community settings. Community assessment; organization and function of community agencies; interventions appropriate to small and large groups, including nutrition education. Offered Fall, Spring/Summer.
Prerequisite: NFS 2130 with a minimum grade of C- and NFS 2140 with a minimum grade of C- and NFS 3230 with a minimum grade of C-

NFS 5240 Nutritional Epidemiology Cr. 3
The purpose of this class is for the students to gain an in-depth understanding of the relationships between diet, health and diseases: to gain an appreciation for the statistical processes involved in nutritional epidemiologic studies and to examine objectively the collection and use of the nutritional information used in epidemiologic studies. Offered Fall.
Prerequisite: NFS 3230 with a minimum grade of C-

NFS 5250 Nutrition and Disease Cr. 4
Application of the principles of biochemistry and physiology in the study of nutrient metabolism as altered by disease. The physio-biochemical basis for diet in the treatment of disease. Offered Winter, Spring/Summer.
Prerequisites: NFS 4230 with a minimum grade of C- and NFS 4231 with a minimum grade of C-

NFS 5350 Organization and Management of Food Service Systems Cr. 4
Survey of food service systems; factors affecting their successful operation. Components of quality assurance supporting well-being of target markets. Identification of operative management skills. Offered Fall.
Prerequisite: NFS 2130 with a minimum grade of C- and NFS 2140 with a minimum grade of C- and NFS 3230 with a minimum grade of C- and MGT 2350 with a minimum grade of C-

NFS 5360 Management of Nutritional Care and Services Cr. 3
Application of management theory and principles in the three areas of dietetic practice; career planning and professional role development. Offered Winter.
Prerequisite: NFS 5200 with a minimum grade of B- and NFS 4220 (may be taken concurrently) with a minimum grade of B-
Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.
NFS 5990 Honors Directed Study Cr. 1-4
Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Nutrition and Food Science Hon; enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits
NFS 5992 Supervised Field Experience Cr. 2-4
Supervised field experience designed to correlate classroom theory with practical work. Offered Every Term.
NFS 5996 Research in Food Science and Nutrition Cr. 1-4
Research projects under direction of faculty active in research. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Unranked Undergrad, Freshman, Sophomore, Junior or Senior; enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits
NFS 6000 Nutritional Biochemistry Cr. 3
Biochemical effects of nutrients at cellular and organ levels. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
NFS 6020 Nutrient and Gene Interaction Cr. 3
Introduction to molecular genetics concepts, terminology and molecular methodologies, with emphasis on nutrition and food science. Overview of nutrition and gene interaction in onset and progression of disease, cancer, and aging. Offered for graduate credit only. Offered Every Other Year.
Prerequisites: NFS 5130 with a minimum grade of C-, NFS 5140 with a minimum grade of C-, and NFS 5230 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.
NFS 6030 Microbiological Safety of Foods Cr. 3
Food-borne microorganisms as causes of human illnesses, including bacteria, mold, viruses and parasites. Microbial toxins and their mode of action. Antimicrobial agents in food. Means of prevention and protection. Offered Fall.
Prerequisites: NFS 4150 with a minimum grade of C- and NFS 5130 with a minimum grade of C-

NFS 6150 Functional Foods for Health Cr. 3
Introduction to functional foods (those with specific health benefits) and nutraceuticals, as well as a variety of functional food ingredients and extracts, their chemical and potential health promoting properties, processing, production, safety and regulation. Offered Winter.
Prerequisite: NFS 2030 with a minimum grade of D- and NFS 2130 with a minimum grade of D- and NFS 3230 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate level students.
NFS 6210 Nutrition through the Life Cycle Cr. 3
Biological growth and nutritional requirements from fetal stages of development through aging. Nutritional standards in light of current epidemiological data and scientific research. Offered for graduate credit only. Offered Intermittently.
Prerequisites: NFS 5230 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
NFS 6230 Nutrition and Physical Performance Cr. 3
How nutrients affect physical fitness and physical performance; how physical performance can be improved by adopting optimal dietary practice and how exercise and optimal nutrition can prevent human diseases. Offered Fall.
NFS 6270 Eating Behavior and Body Weight Regulation Cr. 3
Central and peripheral regulation of food intake, normal and abnormal eating behavior, physiological and psychological regulation of body weight, different models of obesity, etiology of treatment of obesity. Offered Winter.
Prerequisite: BIO 2870 with a minimum grade of C-

NFS 6850 Controversial Issues Cr. 2
Topics to be announced in Schedule of Classes. Offered Fall.
Prerequisite: NFS 3230 with a minimum grade of C

NFS 6860 Controversial Issues in Clinical Nutrition and Dietetics Cr. 2
Current controversial topics; differing points of view will be debated; discussion of modes of communication of nutrition information. Offered Winter.
Prerequisite: NFS 5200 with a minimum grade of B-
Restriction(s): Enrollment is limited to students with a major in Dietetics; enrollment limited to students in the BS in Dietetics or PBC in Dietetics programs.

NFS 7000 Nutritional Metabolomics and Bioinformatics Cr. 3
Introduction to and application of the “omics” technologies to nutrition: genomics, proteomics, and metabolomics. Examples and exercises using bioinformatic software for multivariate data analyses. Offered Winter.
Prerequisite: NFS 6000 with a minimum grade of C- and STA 1020 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $90

NFS 7060 Research Problems in Nutrition and Food Science Cr. 2
Research orientation: acquaintance with published data, principles of design, methods of collecting data, and basic statistical analysis. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7140 Advanced Laboratory Techniques in Nutrition and Food Science Cr. 4
Laboratory techniques in nutrition and food science research, including: animal experimentation, isotope use and quantitation, radioimmunoassay and receptor assays, atomic absorption; chromatography; microbial assays. Offered Yearly.
Prerequisite: (BMB 5010 with a minimum grade of C- or CHM 5600 with a minimum grade of C-) and NFS 5140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $90

NFS 7170 Nutrition, Physical Activity, and the Brain Cr. 3
Neurobehavioral responses and adaptations to dietary constituents and physical activity/inactivity. Offered Fall.
Prerequisite: NFS 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7230 Nutrition and Physical Performance Cr. 3
How nutrients affect physical fitness and physical performance; how physical performance can be improved by adopting optimal dietary practice and how exercise and optimal nutrition can prevent human diseases. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7240 Nutritional Epidemiology Cr. 3
Introduction to epidemiology concepts and terminology. Emphasis on examining the associations between nutrition and chronic disease. Offered Intermittently.
Prerequisites: NFS 2210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7250 Nutrition and Aging Cr. 3
Topics include: conserved pathways determining longevity and the role of nutrition in these pathways; role of metabolic/nutritional factors on longevity and successful aging; premature aging disorders; interventional strategies impacting longevity and health span. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7850 Graduate Seminar Cr. 1
Presentations by graduate students, graduate faculty, and visiting scientists. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7890 Advanced Workshop Cr. 2-4
Application of theoretical principles to selected areas of nutrition and food science. Topics and prerequisites to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

NFS 7990 Directed Study Cr. 1-4
Offered for each area of specialization. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

NFS 7991 Lab Rotation Cr. 1
For new graduate students; students spend at least two weeks in all research labs. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
NFS 7996 Research Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 20 Credits

NFS 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.
Repeatable for 3 Credits

NFS 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.
Repeatable for 8 Credits

NFS 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

NFS 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NFS 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NFS 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NFS 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NFS 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NFS 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NFS 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits