

FOOD SCIENCE AND HUMAN NUTRITION

DIE 6241 Advanced Medical Nutrition Therapy 4 Credits

Grading Scheme: Letter Grade

Opportunity to integrate theories and principles of medical nutrition therapy into clinical practice.

Prerequisite: admission to Master of Science-Dietetic Internship.

DIE 6242 Advanced Medical Nutrition Therapy II 3 Credits

Grading Scheme: Letter Grade

Opportunity to integrate principles of medical nutrition therapy into clinical practice.

Prerequisite: admission to Master of Science-Dietetic Internship and DIE 6241.

DIE 6516 Professional Development in Dietetics 2 Credits

Grading Scheme: Letter Grade

Professional development assessment, planning, and evaluation for future dietetics professionals.

Prerequisite: DIE 6938. ;

Corequisite: DIE 6944.

DIE 6905 Problems in Dietetics 1-3 Credits, Max 4 Credits

Grading Scheme: Letter Grade

Individual study and research carried out in community, hospital, or laboratory settings.

Prerequisite: consent of instructor. Not open to students on probation or conditional admission.

DIE 6938 Advanced Dietetic Seminar 1 Credit

Grading Scheme: Letter Grade

Problem-solving, leadership, and analytical skills.

Prerequisite: admission to Master of Science-Dietetic Internship. ;

Corequisite: DIE 6942.

DIE 6940 Community Nutrition Practicum 3 Credits

Grading Scheme: Letter Grade

This is a practicum-based course designed to provide exposure and experiences in food service in a senior independent living facility and Women Infants and Children (WIC).

Prerequisite: DIE 6241.

DIE 6942 Dietetic Internship I 9 Credits, Max 12 Credits

Grading Scheme: S/U

Internship in dietetics in affiliated institutions offering core rotations in community nutrition, food systems management, and clinical dietetics. Emphasizes applying theory to practice.

Prerequisite: DIE 6242.

DIE 6944 Dietetic Internship II 6 Credits

Grading Scheme: S/U

Internship in affiliated institutions offering elective and/or specialty rotations (e.g., nutrition support, diabetes, pediatrics, sports nutrition, wellness, advanced food systems, and staff experience). Emphasizes skill development for entry-level practice.

Prerequisite: DIE 6942.

FOS 5126C Psychophysical Aspects of Foods 3 Credits

Grading Scheme: Letter Grade

Physical and chemical stimuli controlling human sensory perception of texture, color, and flavor of foods.

Prerequisite: FOS 4311C and 4722C.

FOS 5205 Current Issues in Food Safety and Sanitation 3 Credits

Grading Scheme: Letter Grade

Microbial, chemical, and biological safety of food; principles of sanitation for food processing and retail food industries.

FOS 5225C Principles in Food Microbiology 4 Credits

Grading Scheme: Letter Grade

Fundamental aspects of biological contamination and its control during harvesting, processing, and storage of foods. Analysis of microbial food fermentation, microbial ecology of foods, selection of methods to examine foods for microbial content.

Prerequisite: MCB 3020 or consent of instructor.

FOS 5437C Food Product Development 3 Credits

Grading Scheme: Letter Grade

Value-added food products. Technology, safety, health/nutrition, legal, quality, and economic/marketing considerations.

Prerequisite: 4000-level food science course, or consent of instructor.

FOS 5561C Citrus Processing Technology 3 Credits

Grading Scheme: Letter Grade

Grading, inspection, sampling, extraction, and concentration of citrus products. Emphasizes manufacturing and quality assurance. Taught partly at Lake Alfred Citrus Research and Education Center.

Prerequisite: undergraduate course in food processing.

FOS 5645 Functional Foods and Nutraceuticals 3 Credits

Grading Scheme: Letter Grade

Analysis, chemistry, processing, bioavailability, and health benefits of bioactive food components. Content will include both basic knowledge and the latest research trends.

Prerequisite: Graduate status

FOS 5732 Current Issues in Food Regulations 3 Credits

Grading Scheme: Letter Grade

Governmental laws and regulations affecting the food industry.

Prerequisite: consent of instructor.

FOS 6125C Sensory Evaluation of Food 3 Credits

Grading Scheme: Letter Grade

Principles and techniques of sensory evaluation of foods. Emphasizes basics of taste and olfactory perception; the basic psychology of common sensory tests; the proper use of discrimination testing, consumer acceptability and preference testing, and descriptive analysis; and statistical analysis of sensory data.

Prerequisite: STA 6166.

FOS 6215 Principles of Food Safety 3 Credits

Grading Scheme: Letter Grade

A multidisciplinary approach to food safety that includes aspects of food chemistry, food toxicology, food biotechnology, food microbiology, food defense, and food processing. Enrollment restricted to students in the Food Safety Graduate Certificate Program.

Prerequisite: Bachelor's Degree

FOS 6216 Food Safety Systems 2 Credits

Grading Scheme: Letter Grade

Analyzing the seven steps of Hazard Analysis Critical Control Point (HACCP) and prerequisite programs associated with food processing environments in seafood, meat, poultry, vegetable, grain, and beverage processing facilities. Enrollment restricted to students in the Food Safety Graduate Certificate Program.

Prerequisite: FOS 6215

FOS 6217 Food Safety, Sanitation, and Microbiology 2 Credits**Grading Scheme:** Letter Grade

Microbial, chemical, and biological safety of food and principles of sanitation for the food processing and retail food industries. Enrollment restricted to students in the Food Safety Graduate Certificate Program.

Prerequisite: FOS 6215**FOS 6218 Food Safety Systems 2 Credits****Grading Scheme:** Letter Grade

This course is designed to cover 1) current issues in food supply chain including security and safety in domestic and international food industry, 2) various food safety control systems, 3) principles of HACCP and FSMA Preventive controls. The course also provides hands-on practice in developing a food safety plan.

FOS 6224 Food and Environmental Virology 2 Credits**Grading Scheme:** Letter Grade

Food virology is an emerging topic in the field of microbial food safety. This course explores the role of viruses as human pathogens; their interactions with bacteria; transmission to food, water, and contact surfaces; detection; and prevention strategies. Through this course, students can develop a competency framework within their discipline.

Prerequisite: Basic familiarity with microbiology or biochemistry.**FOS 6226C Advanced Food Microbiology 4 Credits****Grading Scheme:** Letter Grade

Selection of laboratory methods, characterization of food-borne pathogens and spoilage organisms.

Prerequisite: FOS 4222/4222L, MCB 4303/4303L and BCH 6415.**FOS 6315C Advanced Food Chemistry 4 Credits****Grading Scheme:** Letter Grade

Functions of lipids, carbohydrates, proteins, enzymes and other components in foods and their reactions and interactions during food processing and storage.

Prerequisite: BCH 4024 or 3025 and FOS 4311C.**FOS 6317C Flavor Chemistry and Technology 3 Credits****Grading Scheme:** Letter Grade

Psychophysics of taste and aroma, sensory analysis, flavor extraction, measurement techniques, flavor precursors, off-flavors, Maillard flavors, bioflavors, flavoring materials, flavor safety and authenticity.

Prerequisite: basic and organic chemistry.**FOS 6355C Instrumental Analysis and Separations 5 Credits****Grading Scheme:** Letter Grade

Separation of food chemicals; gas, high performance liquid, thin-layer, ion-exchange and molecular size chromatography; characterization via UV-visible, IR, NMR, and mass spectrometry.

Prerequisite: CHM 3120, FOS 4311C.**FOS 6428C Advanced Food Processing 4 Credits****Grading Scheme:** Letter Grade

Reaction kinetics, heat transfer mechanics, and process design, optimization and economics.

Prerequisite: FOS 4427C.**FOS 6455C Industrial Food Fermentations 3 Credits****Grading Scheme:** Letter Grade

Microbiological, chemical, and physical principles and practices in fermentation of foods and constituents.

Prerequisite: FOS 4222/4222L.**FOS 6736 Food Regulations 2 Credits****Grading Scheme:** Letter Grade

Federal laws and regulations associated with the food industry related to food safety, adulteration, misbranding, standards of identity, ingredients, and additives. Structure and function of U.S. government agencies involved in food regulation. Enrollment restricted to students in the Food Safety Graduate Certificate Program.

Prerequisite: FOS 6215**FOS 6905 Problems in Food Science 1-3 Credits, Max 4 Credits****Grading Scheme:** Letter Grade

Individual study carried out in laboratory, library, pilot plant, or the food industry.

Prerequisite: consent of instructor. Not open to students on probation or conditional admission.**FOS 6910 Supervised Research 1-5 Credits, Max 5 Credits****Grading Scheme:** S/U

Supervised Research

Prerequisite: consent of instructor.**FOS 6915 Research Planning 2 Credits****Grading Scheme:** Letter Grade

Required of first-year graduate students. Planning and initiating research, experimental techniques, analyzing data, reporting results.

Prerequisite: consent of instructor.**FOS 6936 Topics in Food Science 1-4 Credits, Max 8 Credits****Grading Scheme:** Letter Grade

Special aspects or current developments in food science.

Prerequisite: consent of instructor.**FOS 6938 Food Science Seminar 1 Credit, Max 4 Credits****Grading Scheme:** Letter Grade

Preparing and presenting reports on specialized aspects of research and technology in food science.

Prerequisite: consent of instructor.**FOS 6940 Supervised Teaching 1-5 Credits, Max 5 Credits****Grading Scheme:** S/U

Supervised Teaching

Prerequisite: consent of instructor.**FOS 6971 Research for Master's Thesis 1-15 Credits****Grading Scheme:** S/U

Research for Master's Thesis

FOS 7979 Advanced Research 1-12 Credits**Grading Scheme:** S/U

Research for doctoral students before admission to candidacy. Designed for students with a master's degree in the field of study or for students who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy.

FOS 7980 Research for Doctoral Dissertation 1-15 Credits**Grading Scheme:** S/U

Research for Doctoral Dissertation

HUN 5441 Metabolic Response to Enteral and Parenteral Nutrition 2 Credits**Grading Scheme:** Letter Grade

Response of the body's organ systems to enteral and parenteral nutritional support, emphasizing physiological and biochemical adaptations.

Prerequisite: BCH 3025, HUN 2201, and PET 2350 or equivalents.

HUN 5447 Nutrition and Immunity 3 Credits**Grading Scheme:** Letter Grade

Role of nutrition in immunity. Effect of nutrients, foods, and dietary supplements on regulation of the immune system.

Prerequisite: PCB 4713C.**HUN 6235 Macronutrients in Human Nutrition 3 Credits****Grading Scheme:** Letter Grade

This course will discuss digestion, absorption, and metabolism of carbohydrates, proteins, lipids, and fiber in health and disease. The macronutrients will be discussed as individual dietary components as well as part of a dietary pattern.

Prerequisite: BCH 6206 or Food Science and Human Nutrition Master's student.**HUN 6245 Advanced Human Nutrition 3 Credits****Grading Scheme:** Letter Grade

Molecular and cellular aspects of nutrients and discussion of research techniques in genomics and proteomics.

Prerequisite: BCH 4024 or 3025, and a nutrition principles course.**HUN 6255 Clinical Nutrition 2-12 Credits, Max 12 Credits****Grading Scheme:** Letter Grade

Nutritional requirements and metabolism of nutrients in normal individual, altered nutritional requirements and metabolism of nutrients in different disease states, and practical aspects of nutritional and metabolic support of different types of patients.

HUN 6301 Nutritional Aspects of Lipid Metabolism 3 Credits**Grading Scheme:** Letter Grade

Role of lipids in nutrition, with emphasis on energy metabolism and derangements in chronic diseases.

HUN 6305 Nutritional Aspects of Carbohydrates 3 Credits**Grading Scheme:** Letter Grade

Characteristics, absorption, and metabolism of common carbohydrates in the food chain; carbohydrate metabolism and its regulation; carbohydrate metabolism in disease.

HUN 6321 Proteins and Amino Acids in Nutrition 3 Credits, Max 3 Credits**Grading Scheme:** Letter Grade

Digestion, absorption, and degradation; emphasis on turnover, requirements, assessment of quality, and effects of deficiencies, toxicities, and physiological stresses.

Prerequisite: BCH 3025.**HUN 6331 Vitamins in Human Nutrition 3 Credits****Grading Scheme:** Letter Grade

Biochemical and physiological functions; nutrient requirements and interactions; response to deficiencies and excesses.

Prerequisite: BCH 4024 or 3025.**HUN 6356 Minerals in Nutrition 3 Credits****Grading Scheme:** Letter Grade

Biochemical and physiological aspects of mineral absorption, metabolism, and function.

Prerequisite: BCH 4024 or equivalent.**HUN 6548 Global Nutrition 3 Credits****Grading Scheme:** Letter Grade

Explore current nutritional problems influencing the health and livelihood of populations in low-income countries. Examine local and global dimensions of malnutrition, food and nutrition insecurity, and micronutrient deficiencies, along with the policies and interventions aimed at improving nutrition outcomes implemented at the household, community, national, and global levels to improve nutritional status.

HUN 6626 Nutrition Education 1 Credit**Grading Scheme:** Letter Grade

This class provides students with the tools necessary to provide nutrition education to the public. Students will learn how to conduct needs assessments, use learning theories when developing programs, write for the general public and health professionals, and develop nutrition education and materials.

HUN 6804 Nutrition Research Method: Systematic Review 3 Credits**Grading Scheme:** Letter Grade

Introduces students to methods for conducting systematic reviews in nutrition and other areas of health and wellness.

HUN 6812C Analytical Techniques in Nutritional Biochemistry 1 Credit**Grading Scheme:** Letter Grade

Biochemical analyses of tissues and fluids, radio-tracer methodology, metabolic studies, tissue handling, and formulation of experimental animal diets.

Prerequisite: BCH 4024 or 3025 and consent of instructor.**HUN 6835 Research Projects in Nutrition and Dietetics – part 2 2 Credits****Grading Scheme:** Letter Grade

This is part two of a two-part course. This course will carry out the study, analyze the data and interpret and present the results of the study that was planned and approved by the University Institutional Review Board in the previous semester as part of FOS6915 Research Planning (i.e., part 1).

Prerequisite: FOS 6915.**HUN 6905 Problems in Nutritional Sciences 1-3 Credits, Max 4 Credits****Grading Scheme:** Letter Grade

Individual study carried out in laboratory, library, pilot plant, or food industry.

Prerequisite: consent of instructor. Not open to students on probation or conditional admission.**HUN 6936 Topics in Nutritional Sciences 1-4 Credits, Max 8 Credits****Grading Scheme:** Letter Grade

Special aspects or current developments in nutritional sciences.

Prerequisite: consent of instructor.**HUN 6938 Nutritional Sciences Seminar 1 Credit, Max 4 Credits****Grading Scheme:** Letter Grade

Presentation of reports on research in nutrition.

Prerequisite: consent of instructor.**HUN 6939 Advanced Clinical Nutrition 2-12 Credits, Max 12 Credits****Grading Scheme:** Letter Grade

Applying normal and therapeutic nutrition principles to specific clinical topics based on cases from the health center environment.

HUN 6940 Supervised Teaching 1-5 Credits, Max 5 Credits**Grading Scheme:** S/U

Supervised Teaching

Prerequisite: consent of instructor.**HUN 6971 Research for Master's Thesis 1-15 Credits****Grading Scheme:** S/U

Research for Master's Thesis

Prerequisite: for thesis students only.**HUN 7979 Advanced Research 1-12 Credits****Grading Scheme:** S/U

Research for doctoral students before admission to candidacy. Designed for students with a master's degree in the field of study or for students who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy.

HUN 7980 Research for Doctoral Dissertation 1-15 Credits

Grading Scheme: S/U

Research for Doctoral Dissertation