

Dietetics and Nutrition

Dietetics is the science of managing food and nutrition to promote health. Registered dietitians are food and nutrition experts who provide nutritional services in hospitals, schools, nursing care facilities, and other institutions. These essential health care professionals are responsible for developing food and nutrition programs to prevent and treat illness or promote general dietary health.

The mission of the KU Department of Dietetics and Nutrition:

"To conduct research in nutrition science and dietetics, and to produce exemplary graduates empowered to influence human health."

The department offers the following programs in the fields of dietetics and nutrition:

Dietetic Internship Graduate Certificate

This program prepares graduates for a career as a registered dietitian. A master's degree from an institution that is accredited by an institutional accreditor and a baccalaureate degree from a didactic program in dietetics accredited by the Accreditation Council for Education in Nutrition and Dietetics is required. Graduates are eligible for the registration examination to acquire the RD credential.

Dietetics and Integrative Medicine Graduate Certificate

An opportunity for working professionals or graduate students, students in this online program explore a personalized approach to prevention and treatment of chronic disease by embracing conventional and complementary therapies. Students may enter with bachelor's or master's degrees in dietetics, nutrition, biological sciences or other health care professions.

Master of Science in Dietetics and Nutrition

With course work in biochemical, clinical and behavioral aspects of nutrition, this program offers many benefits including expanded job opportunities and increased knowledge in the science of nutrition. Students engage in the research process while interacting with leading nutrition and clinical researchers.

A Dual MS/Dietetic Internship program is also available for those interested in preparing for a career as a registered dietitian. A baccalaureate degree from an institution that is accredited by an institutional accreditor and completed course work (DPD program) approved by the Accreditation Council for Education in Nutrition and Dietetics is required. Graduates of the Dual MS/Dietetic internship program are eligible for the registration examination to acquire the RD credential.

Doctor of Clinical Nutrition (<https://catalog.ku.edu/health-professions/dietetics-nutrition/clinical-nutrition-doctorate/>)

The Doctorate in Clinical Nutrition (DCN) is an online, professional practice degree focused on producing advanced-level practitioners in clinical nutrition; food and nutrition managers, administrators, and consultants; public health nutritionists; and transformational researchers in higher education. Graduates of the KUMC Doctorate in Clinical Nutrition (DCN) program will be rigorously trained to provide leadership in prevention, intervention, and treatment of chronic diseases at the individual and population level. DCN graduates will complete cutting-edge

coursework, a work-based practicum, and an outcomes-based research project.

Ph.D. in Medical Nutrition Science

Students with degrees in nutrition or biological sciences have the opportunity for clinical and translational research at a world-class academic health center renowned for its research facilities. This program emphasizes training in the core sciences of nutrition, biochemistry, biostatistics and the most advanced research methodology.

Courses in nutrition are also available to students who are not seeking a degree or working professionals interested in continuing education.

More about careers and areas of study in dietetics and nutrition can be found on the department's website (<http://dietetics.kumc.edu/>).

Courses

DIET 660. Management of Human Resources in Dietetics. 6 Credits.

Focus on human resource development and utilization as the student works with food service personnel. Learning encompasses recruiting, training, supervision, and evaluation of employees in a food service system. Open only to seniors majoring in dietetics. Prerequisite: Management concepts or personnel administration.

DIET 661. Management of Food Processing and Service. 6 Credits.

Application of theories and concepts pertaining to management functions and interdepartmental relationships in a variety of clinical food service settings. Consideration is given to the newer technological developments in the administration of food services. Open only to seniors majoring in dietetics. Prerequisite: Food service systems and management in dietetics.

DIET 662. Special Problems in Food Service Management. 3 Credits.

Advanced experience in the practice of dietetics in an assigned setting. Problems and procedures will vary with interest and needs of the students. Open only to seniors majoring in dietetics. Prerequisite: Food service systems.

DIET 672. Nutrition Care of Patients. 6 Credits.

Directed observation and supervised experience in nutritional care of patients. Nutrition principles studied in DIET 670, Applied Normal Nutrition, and DIET 671, Nutrition in Medical Science, are applied in clinical situations. Open only to seniors majoring in dietetics. Prerequisite: Principles of nutrition; and nutrition throughout the life cycle.

DIET 675. Seminar in Dietetics and Nutrition. 1 Credits.

Involves study and discussion of text and general materials pertaining to philosophy and methodology in the field of dietetics and nutrition. Guest lecturers will participate. May be repeated for credit providing no course duplication takes place. Open only to seniors majoring in dietetics. Prerequisite: Introduction to dietetics.

DIET 800. Selected Topics in Dietetics. 1-3 Credits.

An elective course to allow student credit hours in special issues or problems in dietetics offered by individual faculty. Course content can provide students with investigation of problems and/or issues relevant to theory, research investigation and/or practice related to the field of nutrition and dietetics.

DIET 801. Current Issues or Trends. 2 Credits.

Review of current issues in the economic, social, ethical, political, legal, technological, and ecological environments and the effects of these changes on dietetics practice.

DIET 802. Foods Writing for Professionals. 3 Credits.

A course focusing on the writing skills needed by the food professional in order to communicate effectively in writing about food and food-related topics. Student experiences include hands-on projects in research and writing for various audiences and types of publications.

DIET 803. Accounting Concepts & Analysis. 3 Credits.

An emphasis on financial statement analysis is the main objective of the course. A review of all major accounts in the income statement, balance sheet and statement of cash flow is made in determining a firm's performance and financial condition in relation to what matters most to shareholders and investors. Prerequisite: General Calculus and Linear Algebra

DIET 805. Entrepreneurship Theory and Practice. 3 Credits.

Development and management of small businesses or private practice within the dietetics industry. Business plan development, marketing, cost considerations. Overview of consulting to health care and hospitality operations and examination of skills required for success.

DIET 819. Grant and Scientific Writing for the Professional. 3 Credits.

Grant writing, identifying external funding, managing grants, preparing manuscripts for peer-reviewed publication, and preparing papers and poster for presentation at professional meetings. Prerequisite: Enrolled GPIDEA.

DIET 822. Healthcare Administration. 3 Credits.

A comprehensive review of today's health care institutions and their response to the economic, social/ethical, political/legal, technological, and ecological environments.

DIET 824. Financial Management and Cost Controls in Dietetics. 3 Credits.

This course overviews the fundamental knowledge of financial management, managerial accounting, and operational cost controls for dietetics professionals. Topics include a review of managerial accounting concepts for not-for-profit organizations and for-profit organizations based on the Uniform System of Accounts, value and risk analyses, budgeting, asset management, franchising and management contracts, cost-volume-profit analyses, and operational applications for financial performance.

DIET 829. Nutrition and Aging. 3 Credits.

An overview of nutrition and the aging process. Physiological, psychological, and sociological aspects of aging, theories of aging, internal and external factors related to nutrient intake, and nutrient needs will be considered. Physical activity and practical application to community settings is addressed.

DIET 830. Nutrition: a Focus on Life Stages. 3 Credits.

The influence of normal physiological stresses on nutritional needs throughout the life span will be explored. Evaluating nutritional status at different stages of life and identifying appropriate needs and services will be included while, at the same time, consideration given for specific characteristics such as physiological condition and cultural heritage.

DIET 832. Functional Foods for Chronic Disease Prevention. 3 Credits.

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. Prerequisite: Biochemistry, Human Nutrition, Basic Food Science or consent of instructor.

DIET 833. Principles of Statistics. 3 Credits.

A basic course in statistics: Statistical methods applied to experimental and survey data from social or natural sciences; test of hypotheses

concerning treatment means; linear regression; product-moment, rank, and bi-serial correlations; contingency tables and chi-square tests.

DIET 834. Methods of Research in Nutrition. 3 Credits.

A study of basic research terminology and designs commonly used in nutrition research. Topics include: research on animals, tissue culture and human subjects; qualitative, quantitative and outcomes research; ethical issues in research; dissemination of research findings; and appropriate use of research findings. Prerequisite: Consent of instructor.

DIET 835. Nutritional Epidemiology. 3 Credits.

This course emphasizes the important issues related to designing, conducting, and interpreting research on the role of diet or physical activity in the development of disease (& health) in human populations. Prerequisite: DIET 833 Statistics or Permission of Instructor.

DIET 836. Biochemical, Physiological, and Genetic Aspects of Human Nutrition. 3 Credits.

The topics covered will examine the integration of biochemistry, physiology, genetics, and nutrition. Emphasis will be placed on developing an understanding of how the combination cellular structure and function is related to the metabolic needs of the cell and its response to the environment. The integrated approach will form a basis for evaluating nutritional needs in humans. Prerequisite: courses in nutrition, physiology, and biochemistry, or consent of instructor.

DIET 837. Nutrition in Diabetes. 3 Credits.

(3 hours) An in-depth study of diabetes management with emphasis in nutrition care. Topics will include diabetes pathophysiology, clinical care guidelines, basic pharmacology, clinical nutrition education and counseling strategies, and nutrition care planning. Prerequisite: A course in medical nutrition therapy or consent of instructor. Must be a student in the Great Plains IDEA degree program.

DIET 838. Advanced Medical Nutrition Therapy. 3 Credits.

This course will discuss the role of diet in disease including diet as a factor related to prevention of diseases or illness, diet as an etiologic agent in illness and diet as a treatment for disease. Medical nutrition therapy is the use of specific nutrition services to treat an illness, injury or condition and involves two phases: 1) assessment and 2) treatment, which includes diet therapy, counseling and/or the use of specialized nutrition supplements.

DIET 839. Clinical Aspects of Nutrition Support. 3 Credits.

The course content provides in depth study of specialized visceral and somatic nutrition assessment of the critically ill patient. Content includes extensive review of methods for determining energy expenditure and substrate utilization during specific disease states. Discussion of the aspects of feeding the critically ill patient including timing, enteral and parenteral feeding methodology, specialized medical foods, equipment requirements, feeding complications and prevention, and pharmacological issues. Students will be expected to calculate formulas for both types feeding modalities and provide discussion of the evidence based guidelines for administration of these nutrition therapies. Prerequisite: minimum of 3 cr hours in Medical Nutrition Therapy.

DIET 840. Foundations of Leadership in Dietetics. 3 Credits.

Study of the key issues in the theory, research and application of leadership in organizations. This 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. Prerequisite: Must be admitted to the GPIDEA Program.

DIET 841. International Nutrition and World Hunger. 3 Credits.

Advanced study of the magnitude, cause, and nature of hunger and undernutrition in low income countries; emphasis on programs, policies and planning directed toward alleviating hunger.

DIET 842. United States Public Health Nutrition. 1-3 Credits.

A study of US public health and nutrition concerns in diverse US populations, assessment of nutritional status in commonalities, health communication, nutrition policies and community based nutrition interventions. Exploration of the roles of dietitians, nutritionists, and others in developing and delivering nutrition policies and interventions in US communities. Prerequisite: Must be a student in the Graduate Certificate Dietetic Internship Program, the Dietetics and Nutrition Master of Science Program, or the Great Plains IDEA, or have the consent of the instructor.

DIET 843. Nutrition Education in the Community. 3 Credits.

Principles and practices of teaching individuals and groups to translate nutrition knowledge into action. Emphasis on research in and evaluation of nutrition education.

DIET 844. Behavior Management Theory. 3 Credits.

An in-depth analysis of the development of the behavioral basis of individual and group behavior in business, governmental, educational, and other organizations with emphasis on current research literature and applications.

DIET 845. Nutritional Aspects of Oncology. 3 Credits.

A course focusing on current research examining the role of nutrition in specific cancers. Topics include basic cancer biology, pathology and nutritional research methodology. Sources of information for cancer prevention programs and the application of translational research to clinical patient populations will be discussed.

DIET 846. Nutrition and Wellness. 3 Credits.

Course will address wellness promotion through nutrition. Nutritional risk and protective factors will be examined as they relate to public health and individual nutrition.

DIET 850. Operations Management and Analysis. 3 Credits.

The study of the role of operations systems in the provision of value for the customer. Operations systems design; capacity determination, resource requirements planning and control, theory of constraints, supply chain management, quality management and control and project management are discussed and analyzed. Prerequisite: Basic graduate statistics course

DIET 854. Non-Thesis Research. 1-3 Credits.

Directed study of special problems in nutrition or nutrition care. This course provides for the individual or group study of special problems. Through directed readings, investigations and projects, the student acquires information with reference to questions in dietetics and nutrition not covered in organized courses. This course fulfills the research requirements for the Non-Thesis Option.

DIET 862. Maternal and Child Nutrition. 3 Credits.

Critical examination of behavioral, physiological, and public health issues impacting dietary and nutritional factors that support normal growth and development. Course content focuses on the early stages of the life cycle: gestation, lactation, infancy, preschool, school age, and adolescence. Topics include the fetal programming hypothesis, growth and nutritional requirements, breast and formula feeding of infants, infant weaning, and eating behaviors that lead to normal growth, growth faltering, and pediatric obesity. Cross-listed with DN 862. Prerequisite: Registered Dietitian, or registry eligible dietitian.

DIET 865. Nutrition and Human Performance. 3 Credits.

This course is designed to develop an understanding of nutrition, based upon knowledge of the biochemical and physiological process

and functions of specific nutrients in meeting nutritional requirements. Emphasis will be placed upon the relationship of optimal nutrition and physical efficiency and performance.

DIET 870. Nutrition Counseling and Education Methods. 3 Credits.

Nutrition education for groups and individuals in clinical and community settings. Includes discussion and experience in applying learning theory, assessing educational needs, stating goals and objectives, selecting learning activities, implementing and evaluating instruction, and documenting care provided.

DIET 874. Nutrition Therapy for Eating Disorders. 3 Credits.

An online study of eating disorders management and nutrition care. Topics will include eating disorders medical complications, clinical care guidelines, basic pharmacology, clinical nutrition education, nutrition care planning, psychology of eating disorders, team collaboration, and therapeutic modalities for nutrition counseling. Prerequisite: A course in medical nutrition therapy or consent of instructor.

DIET 875. Pediatric Clinical Nutrition. 3 Credits.

Examines 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 medicine conditions found in this population will be discussed including inborn errors of metabolism, food hypersensitivity, obesity, and diseases of the major organ systems. Cross-listed with DN 875. Prerequisite: Registered Dietitian or registry eligible dietitian.

DIET 876. Intervention for the Prevention & Management of Obesity. 3 Credits.

This course emphasizes obesity in a population group ranging from childhood to the adult. Course materials will examine the impact of obese conditions on disease development throughout the life cycle. The course will critically analyze current evidence focused on interventions used in the behavioral and clinical management of overweight and obese individuals in community and clinical settings. Prerequisite: Consent of instructor.

DIET 880. Dietary and Herbal Supplements. 3 Credits.

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. Prerequisite: Human physiology is advisable.

DIET 881. Phytochemicals. 3 Credits.

The course is an overview on phytochemicals (non-nutritive biologically active compounds which may have health benefits) from fruits, vegetables, cereals and oilseeds. The course will include discussions of functional foods which are designer foods providing these compounds to the public. It will cover recent findings on chemistry, physiological functions, potential health implications of phytochemicals.

DIET 885. Advanced Human Nutrition: Macronutrients. 3 Credits.

Physiological and biochemical aspects of macronutrients metabolism and human nutrition. Prerequisite: Must be admitted to the GPIEDA Program.

DIET 886. Advanced Nutrition: Nutrigenomics, Nutrigenetics and Advanced Lipid Metabolism in Human Nutrition. 3 Credits.

This course integrates topics related to current biochemical issues in nutritional science. The course will examine topics ranging from the cellular, molecular, and biochemical aspects of nutritional science to translational and applied research at the clinical and educational level. The goal is to emphasize the integrative and complex nature of human nutrition research ranging from basic science to clinical studies to translational and applied studies.

DIET 887. Nutrition and Immunology. 3 Credits.

This course examines the mechanisms underlying the modulation of immune responses by nutritional, naturally occurring and orally active food compounds. The role of nutritional status and changes in the life stages which impact immune response impacting disease initiation and progression. Contributions of the GI system and changes in life stages impacting immunity and their relationship to immune response will be discussed.

DIET 896. Micronutrients in Human Nutrition. 3 Credits.

Interrelationships of micronutrients in terms of biochemistry, physiology, genetics, and nutrition. Emphasis will be placed on developing an understanding of how the coordination of structure and function is related to the metabolic needs of the cell and its response to the environment. This integrated approach will form the basis for evaluating the micronutrient needs of humans in both normal and altered metabolic states.

DIET 899. Thesis. 1-6 Credits.

Scholarly essay based research, written under the guidance of the student's adviser. Credit given upon meeting thesis requirements for the master's program.

Courses

DN 671. Nutrition in Medical Science. 6 Credits.

Study of the science of medical nutrition therapy and evidence based practice in the nutritional management of disease during specific stages of the life cycle. Prerequisite: Consent of Instructor

DN 796. Social and Cultural Aspects of Dietetics and Nutrition. 2-4 Credits.

A study of the aspects of society, culture and personality related diet, food habits, and nutrition. The role of the community and its agencies will be considered. Includes field work. Prerequisite: Consent of instructor.

DN 800. Selected Topics in Clinical Dietetics: _____. 1-6 Credits.

A learner-centered, self paced study of topics in applied clinical dietetics. Independent modules are offered to address the science and art of nutritional care relating to specific issues to clinical dietetics. Topics will be grouped in various combinations to provide flexibility of choice. Students may enroll in one or more topics for a total of six credit hours. Prerequisite: By permission of instructor only.

DN 810. Nutrition Assessment. 3 Credits.

Methods and tools used in screening and assessment of nutritional status of individuals and population groups are studied. Assessment methodology includes dietary surveys, computerized dietary intake analysis, anthropometric measures, biochemical measures and clinical evaluations. Laboratory experiences are provided to allow students practice time for learning and applying assessment techniques. Prerequisite: Permission of instructor.

DN 817. Seminar in Dietetics & Nutrition I. 1 Credits.

Seminar designed to promote effectiveness of professional written and oral communication, increase knowledge of research, and review content information in selected topics in dietetics.

DN 818. Seminar in Dietetics & Nutrition II. 1 Credits.

To promote effectiveness of professional written and oral communication, to increase knowledge of research, and to review content information in selected areas in dietetics.

DN 819. Scientific Writing for the Nutritional Sciences. 1 Credits.

Research proposal preparation and / or scientific manuscript writing experience. This course will provide the student with an overview of

the steps used in proposal writing and / or the steps in preparation of a scientific manuscript for publication.

DN 820. Nutrition Education Skills for School Teachers. 3 Credits.

This graduate level course will expand understanding of nutrition and healthy eating for classroom teachers and other professionals who work with children. The course has a special emphasis on child and adolescent nutrition and how to translate nutrition facts into classroom applications and school-based interventions. Course topics will include healthy food choices, nutrition guidelines, nutrients, energy balance and weight, child and adolescent nutrition, and nutrition education in the classroom, school-based nutrition interventions, and measuring outcomes of nutrition interventions. Prerequisite: Student must be classroom teacher or consent of instructor.

DN 822. Management Dietetics & Nutrition I. 1 Credits.

Managerial skills in health care quality improvement and food service are practiced. Students are typically enrolled in DN 827 Practicum supervised practice experiences associated with the dietetic internship. Prerequisite: food service systems or commensurate practical experience.

DN 823. Management Dietetics & Nutrition II. 1 Credits.

Managerial style is related to food policy, financial benchmarking and applied nutrition practice. Students are typically enrolled in DN 827 Practicum supervised practice experiences associated with the dietetic internship. Prerequisite: food service systems or commensurate practical experience.

DN 825. Medical Nutrition Therapy I. 3 Credits.

Course content introduces the student into the concepts of an intermediate study of nutritional therapy of disease. Course content includes evidence-based practice in prevention and nutritional management of diseases. Patient assessment and medical chart documentation are covered. Elements of pathology and biochemistry of the nutrition-related problems are integrated into course topics. This course is designed for students enrolled in the dietetic internship, but students from other departments may enroll with consent of instructor. Prerequisite: Undergraduate coursework in nutrition, diet therapy, biochemistry and physiology or consent of instructor.

DN 826. Medical Nutrition Therapy II. 3 Credits.

Course content includes current nutrition theory and evidence-based practice in treatment of disease. Advanced therapies and patient management in nutrition support will be discussed. Course topics include parenteral nutrition, fluid and electrolyte management, liver diseases, cancer, gestational diabetes, and renal diseases. Elements of pathology and biochemistry of the nutrition-related problems are integrated into course topics. This course is designed for students enrolled in the dietetic internship, but students from other departments may enroll with consent of instructor. Prerequisite: Undergraduate coursework in nutrition, diet therapy, biochemistry and physiology; DN 825; or consent of instructor.

DN 827. Practicum in Dietetics and Nutrition. 1-10 Credits.

Supervised practice experience for graduate level students to fulfill the requirements for the Dietetic Internship. Experiences take place in hospitals, clinics, community health care agencies, and other practice settings in which dietetics and nutrition services are provided. Prerequisite: Admission to the graduate program, permission of dietetic internship director or course instructor.

DN 828. Clinical Education in Dietetics. 2-3 Credits.

A study of teaching methods appropriate for use in a clinical setting. Emphasis on development of instructional objectives, learning situations, and methods of evaluations to be used in clinical teaching in dietetics. Prerequisite: Consent of instructor.

DN 829. Nutrition and Aging. 3 Credits.

An overview of nutrition and the aging process. Physiological, psychological, and sociological aspects of aging, theories of aging, internal and external factors related to nutrient intake, and nutrient needs will be considered.

DN 830. Food Technology. 2-3 Credits.

Consideration of current food processing methods and the factors affecting the palatability and nutritive values of human foods. Course includes pertinent information regarding the protection of the food supply.

DN 834. Methods of Research in Nutrition. 3 Credits.

A study of basic research terminology and designs commonly used in nutrition research. Topics include: research on animals, tissue culture and human subjects; qualitative, quantitative and outcomes research; ethical issues in research; dissemination of research findings; and appropriate use of research findings. Prerequisite: Consent of instructor. Same as DIET 834.

DN 836. Biochemical, Physiological, and Genetic Aspects of Human Nutrition. 3 Credits.

The topics covered will examine the integration of biochemistry, physiology, genetics, and nutrition. Emphasis will be placed on developing an understanding of how the combination cellular structure and function is related to the metabolic needs of the cell and its response to the environment. The integrated approach will form a basis for evaluating nutritional needs in humans. Prerequisite: courses in nutrition, physiology, and biochemistry, or consent of instructor. Same as DIET 836.

DN 837. Nutrition in Diabetes. 3 Credits.

(3 hours) An in-depth study of diabetes management with emphasis in nutrition care. Topics will include diabetes pathophysiology, clinical care guidelines, basic pharmacology, clinical nutrition education and counseling strategies, and nutrition care planning. Prerequisite: A course in medical nutrition therapy or consent of instructor.

DN 838. Advanced Medical Nutrition Therapy. 3 Credits.

This course evaluates current issues in medical nutrition therapy. Course content includes evidence based analysis, the role of diet in disease management including factors related to disease pathophysiology, nutritional assessment and medical nutrition management of specific disease states. Prerequisite: undergraduate medical nutrition therapy, biochemistry, physiology, or consent of the instructor.

DN 839. Clinical Aspects of Nutrition Support. 3 Credits.

Specialized nutrition assessment and support. Review of energy expenditure and substrate utilization in specific disease states. Current methods for the initiation and management of enteral and parenteral nutrition therapy including access, metabolic and mechanical complications. Evaluation nutrition support methodology in selected disease states.

DN 840. Advanced Topics in Nutrition. 1-2 Credits.

Reading and preparation of a paper and/or oral presentation on a selected subject in nutrition. Prerequisite: Consent of instructor.

DN 841. International Nutrition. 1-3 Credits.

A study of global public health and nutrition concerns in various nations, assessment of nutritional status of diverse populations, international health and nutrition organizations, policies, and interventions. We explore the roles of dietitians, nutritionists, and others in creating and implementing international public health and nutrition policies and interventions. To enroll in the course, you must be a student in the Graduate Certificate Dietetic Internship Program, the Dietetics and Nutrition Master of Science Program, or the Great Plains IDEA, or have the consent of the instructor. Cross-listed with DIET 841.

DN 842. United States Public Health Nutrition. 1-3 Credits.

A study of US public health and nutrition concerns in diverse US populations, assessment of nutritional status in commonalities, health communication, nutrition policies and community based nutrition interventions. Exploration of the roles of dietitians, nutritionists, and others in developing and delivering nutrition policies and interventions in US communities. Prerequisite: Must be a student in the Graduate Certificate Dietetic Internship Program, the Dietetics and Nutrition Master of Science Program, or the Great Plains IDEA, or have the consent of the instructor.

DN 854. Special Problems in Dietetics and Nutrition. 1-4 Credits.

Directed study of special problems in nutrition or nutrition care. This course provides for the individual or group study of special problems. Through directed readings, investigations, and projects, the student acquires information with reference to questions in dietetics and nutrition not covered in organized courses.

DN 857. Motivational Interviewing in Public Health Settings. 1 Credits.

The course is designed to introduce participants to Motivational Interviewing, its concepts, and to the subsequent skills required for helping people to change.

DN 860. Collaboration Strategies in Health Care. 1 Credits.

Persuasion and negotiation techniques: skills to evaluate and promote collaboration and goal achievement in a multidisciplinary health care team; analysis of communication styles and strategies to achieve mutual beneficial outcomes.

DN 862. Maternal and Child Nutrition. 3 Credits.

Critical examination of behavioral, physiological, and public health issues impacting dietary and nutritional factors that support normal growth and development. Course content focuses on the early stages of the life cycle: gestation, lactation, infancy, preschool, school age and adolescence. Topics include the fetal programming hypothesis, growth and nutritional requirements, breast and formula feeding of infants, infant weaning, and eating behaviors that lead to normal growth, growth faltering, and pediatric obesity. Prerequisite: Consent of the instructor.

DN 865. Nutrition in Sports and Exercise. 3 Credits.

Gain a deeper understanding of exercise physiology and nutrient requirements in sports and exercise. Examine, discuss, and develop critical thinking skills in areas within sport and exercise nutrition such as exercise metabolism and general exercise periodization as well as energy, macronutrient, micronutrient and fluid needs of athletes engaged in specific sports. Learn and explore current scientific literature regarding body composition and nutrition supplementation in addition to reviewing eating disorders in athletes and evidence-based approaches to weight management in sport. Prerequisite: Biochemistry and/or exercise physiology class or permission of the instructor.

DN 870. Health Behavior Counseling. 1 Credits.

Theoretical and applied issues in health behavior counseling. Students will learn the theories of behavior change and how to apply these to health care issues. Specific health behaviors (i.e., dietary changes, smoking cessation, exercise adherence) will be discussed in the context of chronic disease for children, adults, and the elderly. Effective methods of counseling patients and promoting changes on an individual and small group basis will be presented.

DN 874. Nutrition Therapy for Eating Disorders. 3 Credits.

An online study of eating disorders management and nutrition care. Topics will include eating disorders medical complications, clinical care guidelines, basic pharmacology, clinical nutrition education, nutrition care planning, psychology of eating disorders, team collaboration, and

therapeutic modalities or nutrition counseling. Prerequisite: A course in medical nutrition therapy or consent of instructor.

DN 875. Pediatric Clinical Nutrition. 3 Credits.

Examines 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 medicine conditions found in this population will be discussed including inborn errors of metabolism, food hypersensitivity, obesity, and diseases of the major organ systems. Prerequisite: DN 826: Applied Clinical Nutrition or equivalent or consent of instructor.

DN 876. Intervention for the Prevention & Management of Obesity. 3 Credits.

This course emphasizes obesity in a population group ranging from childhood to the adult. Course materials will examine the impact of obese conditions on disease development throughout the life cycle. The course will critically analyze current evidence focused on interventions used in the behavioral and clinical management of overweight and obese individuals in community and clinical settings. Prerequisite: Consent of instructor. Same as DIET 876.

DN 880. Dietary and Herbal Supplements. 3 Credits.

Designed to develop the health professional's skills in partnering with patients to make dietary supplement decisions. Students will investigate the use of botanicals and dietary supplements in nutritional support of aging, maternal health, and wellness. Discussion on supplementation in the prevention and treatment of chronic diseases will include: arthritis, cardiovascular, diabetes, digestive, liver and renal disorders, memory deficits, and ophthalmic dysfunctions. Prerequisite: Human physiology is advisable.

DN 881. Introduction to Dietetics and Integrative Medicine. 3 Credits.

Introduction to principles guiding integrative and functional Medical Nutrition Therapy; assessing, diagnosing, intervening, monitoring, and evaluating an individual client to restore function; focusing on the unique nutritional imbalances characteristic of chronic disease pathophysiology; supporting individuals with persistent symptoms; preventing chronic disease. Prerequisite: Introductory genetics, medical nutrition therapy, or consent of instructor.

DN 882. A Nutrition Approach to Inflammation and Immune Regulation. 3 Credits.

Inflammation and immune system dysregulation is common in chronic disease. The course presents the integrative nutrition approach to identify the underlying causes of inflammatory and immune-related conditions and associated nutritional influences; applies individualized nutritional interventions, as powerful modulators of the pathophysiology of inflammatory and immune responses. Prerequisite: Medical nutrition therapy, genetics or consent of instructor.

DN 884. Diet, Physical Activity & Cancer. 3 Credits.

Multi-disciplinary approach, introductory cancer biology, Cancer epidemiology and risk factors. Dietary and environmental causation and prevention. Cancer in various organ systems. Nutrition therapy in Oncology. Nutrition implications in cancer treatments. Lifestyle factors and cancer survivorship. Exercise programming adaptations. Analysis of primary literature. Prerequisite: Permission of instructor.

DN 885. Nutritional Biochemistry. 3 Credits.

Course content facilitates the understanding of advanced biochemical principles applied to human nutrition. Topics include protein structure, bioenergetics, enzyme function, nutrient digestion, absorption and metabolism, metabolic regulation and intermediary metabolism, cellular signaling, and genomics encompassing nucleotide metabolism,

gene expression and gene regulation. Prerequisite: Undergraduate biochemistry or consent of instructor

DN 890. Graduate Research. 1-4 Credits.

Individual investigation of special problems in dietetics and nutrition or hospital dietary administration approved by the student's advisor or advisory committee. Investigation involves original research.

DN 895. Advanced Macronutrients and Integrated Metabolism. 3 Credits.

Energy containing macronutrients and fiber presented from the perspective of their importance in human nutrition. Structural properties, digestion, absorption and metabolism are emphasized. Fuel utilization in response to food intake and exercise, cellular and whole-animal energetic and energy balance integrate metabolism. Students take an active role in presenting and discussing and exhibit advanced skills in analysis and presentation. Prerequisite: BCHM 702 or Equivalent.

DN 896. Advanced Micronutrients and Integrated Metabolism. 3 Credits.

Vitamins and minerals presented from the perspective of their requirements as nutrients for normal human physiological functions with emphasis on their underlying roles in structure, function and metabolism. Students take an active role in selecting, presenting and discussing recent published research and to exhibit advanced skills in analysis and presentation. Prerequisite: Biochemistry.

DN 897. Micronutrient Research in Human Nutrition. 1 Credits.

This course requires students to design a research study on a vitamin or mineral. Students submit a written proposal and present it orally and defend the proposal in class. Students will be evaluated on the basis of plausibility, feasibility and originality of the proposed research. Co-requisite DN 896. Prerequisite: Consent of Instructor.

DN 899. Thesis. 1-6 Credits.

Scholarly essay based on research, written under the guidance of the student's advisor. Credit given upon meeting thesis requirements for the master's degree. Prerequisite: Consent of advisor.

DN 900. Techniques in Nutrition Research. 3 Credits.

A series of seven laboratory modules emphasizing quantitative methods and experimental analysis. The series of modules will be team taught by departmental faculty. Each module requires data collection, data analysis, and written interpretation or report. Instrumentation, dietary assessment software utilization and cellular microtechniques will be emphasized. Students will be responsible for learning one technique practiced in an outside laboratory setting. Student will rotate between the module sequence based on the number of students enrolled in the class. Prerequisite: DN 895 and DN 896 or permission of instructor of record.

DN 901. Graduate Seminar in Nutrition. 1 Credits.

Advanced course examining current research topics in nutrition. Extensive student and faculty interaction is emphasized utilizing lectures, class discussion of selected scientific readings and oral presentations. Prerequisite: Admission to PhD program in Dietetics and Nutrition or permission of instructor.

DN 910. Leadership Essentials in Clinical Nutrition. 3 Credits.

This course builds upon leadership theories to develop the skills to link theory and practice. After completing this course students will be able to successfully evaluate leadership theories; identify and develop a personal leadership style, increase competencies for effective leadership, and identify positive applications in clinical nutrition. The class also examines the differences between leadership and management and why those differences are important in clinical nutrition. Students also engage in practice of essential management skills for clinical nutrition. The class is designed to be an interactive exploration of personal

leadership development and management skills. The student will be asked to respond to critical thinking opportunities and demonstrate their understanding of key concepts through exercises, discussion questions, quizzes, a Learning Journal, and their Leadership Growth Plan.

DN 915. Advanced Nutrition Assessment in Clinical Nutrition. 3 Credits.

This course builds on students' prior knowledge and provides advanced concepts and skills for nutrition assessment of individuals. The course is structured into four assessment components: biochemical, dietary intake, body composition and nutrition focused physical exam. Main topics include in-depth overview of the assessment methods, strengths and limitations of methodology, evaluation and interpretation of assessment data, sources of measurement errors, validity of assessment methods, and advanced analytical approaches used to assess and interpret laboratory data.

DN 920. Nutrition Communication for Advanced Practice. 3 Credits.

The overall goal of this course is to enhance the student's professional communication skills across a range of nutrition practice areas. This course will emphasize the nutrition professional's ability to effectively communicate with a wide audience including community members of all ages, races, and ethnicities; patients in public health and clinic settings, hospitalized patients, non-nutrition health professionals, peers, and researchers. The course will use online didactic methods to establish a background of theory, but student learning and assessment will be project-based.

DN 930. Evidence Analysis in Clinical Nutrition. 3 Credits.

Students will identify a pertinent clinical nutrition question and utilize the Academy of Nutrition and Dietetics' Evidence Analysis Library Manual to conduct a systematic review. Students will follow the rigorous process of defining a research question, searching and critically evaluating published literature, developing an evidence summary table and composing a systematic review. The goal of the course is a manuscript suitable for publication. Prerequisite: Consent of the instructor.

DN 932. Ethics in Clinical Nutrition Research. 1 Credits.

This course provides information and insights on important tenets that are essential for clinical nutrition research. Topics covered in lectures and moderated discussions include ethical, regulatory, and legal issues, informed consent for research participation, role and function of institutional review boards, just selection of research subjects, ethical aspects of study design, and privacy and confidentiality. Additionally, given the social, religious, and other influences on an individual's food choice, the moral and political aspects of food and nutrition research will be discussed. Prerequisite: Permission of instructor if student is not enrolled in a DN degree program.

DN 934. Advanced Methods of Research in Clinical Nutrition. 3 Credits.

This course prepares clinical nutrition students with the knowledge to design, conduct and write up results of a research project; and to read and review the clinical nutrition literature at an advanced level. Broad topics include ethical, regulatory and legal issues, study design and biostatistics, technology transfer, data management and sources of funding support, and clinical research infrastructure. Within these topics special emphasis is paid to educating the student about study designs that could be particularly useful to those with a clinical doctorate, e.g., designs that make use of electronic health records or other pre-existing databases. Students will get practice writing a research protocol and budgeting for a trial. Prerequisite: DN 834 or equivalent introduction to basics of research, or by permission of instructor.

DN 941. Applied Nutritional Epidemiology. 3 Credits.

The overall goal of this course is to provide graduate students the conceptual and applied skills to better interpret and conduct nutrition epidemiology research. Emphasis of this course includes design of a nutritional epidemiology research study, statistical computing, management of nutrition and outcomes-related datasets, methods of statistical analysis, and interpretation of analyses. Prerequisite: DN 934 Advanced Methods of Research in Clinical Nutrition.

DN 950. Interprofessional Collaboration in Clinical Nutrition. 2 Credits.

This course seeks to improve students' abilities to function and lead inter-professional healthcare teams. Students will apply core competencies in interprofessional practice for healthcare including roles and responsibilities, values and ethics, communication, team formation, teamwork, leading teams, decision making in teams, and managing conflict in teams. Prerequisite: Permission of Instructor.

DN 970. Pharmacology in Clinical Nutrition. 3 Credits.

This course provides the principles of clinical pharmacology and nutrition as therapeutic interventions and drug-nutrient and drug-food interactions. Students will apply the concepts to the pharmacological and nutritional management of compromised body systems. The strong conceptual base will prepare students to evaluate and monitor the use of commonly used medications and nutrition and herbal supplements. Applications across the lifespan will be incorporated within the class. Prerequisite: Consent of Instructor.

DN 971. Advanced Nutrition Counseling. 3 Credits.

Advanced Nutrition Counseling: This class is for experienced dietetic practitioners. The course content emphasizes evidence-based strategies and advanced counseling skills to promote behavior and attitude change in patients/clients. Prerequisite: Instructor's consent required.

DN 972. Frontiers in Medical Nutrition Therapy. 3 Credits.

This class is for experienced dietetic practitioners. The course content emphasizes contemporary issues, controversies and evidence-based intervention strategies that can be implemented to improve patient outcomes in areas of lifespan nutrition. Prerequisite: Consent of the instructor.

DN 980. Nutrigenomics and Nutrigenetics in Health and Disease. 3 Credits.

Nuclear receptors and their mechanisms of action, nutritional control of gene expression and functional genomic studies with relationships to nutrient intake and polymorphisms. Prerequisite: DN 836, DN 895, DN 896 or permission of instructor.

DN 990. Doctoral Research. 1-9 Credits.

Original and independent investigation approved by and conducted under the supervision of the student's advisor or advisory committee. This course is in partial fulfillment of the requirements for the Ph.D. degree. Prerequisite: Corequisite: Restricted to Dietetics & Nutrition Ph.D. candidates, or consent of DN advisor. Students must have completed the qualifying exam.

DN 991. Applied Research in Clinical Nutrition. 1-6 Credits.

This capstone course is designed to enhance the student's ability to apply graduate knowledge to achieve tangible and relevant clinical research outcomes. All aspects of this translational research project will be included (i.e., planning, data collection, analysis and interpretation of results, written documentation, and oral presentation of the project). The outcome is a manuscript which has been submitted for publication. Collaborative interprofessional patient care projects are strongly encouraged. Prerequisite: DN 930, DN 934, DN 940, and permission of instructor.

DN 992. Applied Clinical Residency in Clinical Nutrition. 3 Credits.

The residency experience is designed to span 360 hours and will be completed within a professional workplace setting. Students will identify an area of practice through which they will provide leadership to develop a research-based clinical initiative or program. Upon completion, the students will provide their clinical team with the program or clinical initiative, along with program evaluation methods. Prerequisite: Acceptance into the DCN program.

DN 999. Dissertation. 1-6 Credits.

Preparation of the written dissertation based upon original research and in partial fulfillment of the requirements for the Ph.D. degree. Prerequisite: DN 990 or consent of advisor.