

**CNU 500 INTEGRATIVE CARE FOR HEALTH SCIENCES. (1-3)**

Integrative care involves using the best possible treatments from both complementary/alternative and allopathic medicine, based on the patient's individual needs and condition. The selection of health care providers should be based on good science and this course will introduce students to complementary and alternative health care providers and the practices and beliefs of these practices as well as the scientific evidence in support of these practices. The course integrates successes from both worlds and describe the safest, least invasive, most cost-effective approach while incorporating a holistic understanding of the individual. May be repeated to a maximum of 3 credits (1 credit didactic and up to two credits experiential/research). (Same as AT 500, HS 500, CLS 500, CD 500, PAS 500.)

**CNU 501 NUTRACEUTICALS AND FUNCTIONAL FOODS IN HEALTH AND DISEASE PREVENTION. (2)**

The course will cover the classification, brief history and the impact of nutraceuticals and functional foods on health and disease. An example of nutraceuticals to be covered in the course include isoprenoids, isoflavones, flavanoids, carotenoids, lycopene, garlic, omega 3 fatty acids, sphingolipids, vitamin E and antioxidants, S-adenosyl-L-methionine, CLA, creatine, herbal products in foods and lipoic acid. Prereq: Undergraduate organic chemistry and/or biochemistry.

**CNU 502 OBESITY C2C: CELL TO COMMUNITY (Subtitle required). (2)**

This course will provide an overview of the obesity epidemic from an applied clinical as well as public health perspective. Topics to be covered include etiology, pathophysiology, evaluation, treatment, management, and prevention of obesity throughout the lifecycle.

**CNU 503 NUTRITION FOR THE HEALTH PROFESSIONS: MEDICAL NUTRITION THERAPY. (1)**

An interdisciplinary approach to applied and medical nutrition therapy and its role in primary, secondary, and tertiary health care delivery. Covers the fundamental principles and concepts of nutrition science as applied to the human life cycle. Prereq: Undergraduate senior students planning to enroll or students who are currently enrolled in the Colleges of Medicine, Nursing, Dentistry, Pharmacy or Health Sciences. Completion of at least one semester of physiology; one semester of organic chemistry or biochemistry, and preferred, clinical exposure.

**\*CNU 601 INTEGRATED NUTRITIONAL SCIENCES I. (3)**

The material covered in CNU/NS 601 consists of three major emphasis areas: (1) review of carbohydrate, lipid, and protein structure, synthesis, absorption, and metabolism, (2) the impact of nutritional influences on macronutrient metabolism to health and disease, (3) the influence of macronutrient metabolism on the regulation of energy balance. Prereq: IBS 601, PGY 206. (Same as NS 601.)

**#CNU 602 INTEGRATED NUTRITIONAL SCIENCES II. (3)**

Integrated study of the properties, metabolism, biochemical and physiological functions and interactions of vitamins and minerals, and their relationships to chronic diseases, deficiency symptoms and toxicity. Prereq: IBS 601, PGY 206. (Same as ASC/NS 602.)

**#CNU 603 INTEGRATED NUTRITIONAL SCIENCES III. (2)**

This course is aimed at providing medical and health professional students with a working knowledge of dietary requirements and guidelines, nutritional assessment and nutritional requirements, food safety issues and nutritional needs throughout the lifecycle. Prereq: Health Professional Graduate Status. (Same as FSC/NS 603.)

**CNU 604 LIPID METABOLISM. (3)**

Emphasis on factors influencing the absorption of fats and fatty acids, distribution and incorporation of fatty acids into body tissues, the biosynthesis of and catabolism of fatty acids, as well as cholesterol, bioactive eicosanoid production and the involvement of fats in the disease process. Lecture and problem-based learning approach with incorporation of student presentations, three hours per week. Prereq: NS/CNU 601, BCH 401G and PGY 412G or consent of instructor. (Same as NS 604.)

**CNU 605 WELLNESS AND SPORTS NUTRITION. (3)**

Emphasis is directed toward nutrition as applied to prevention of disease through lifestyle management and the application of nutrition in exercise and sport. Targeted focus areas are: body composition and energy expenditure, the metabolic basis of weight management, nutrient needs throughout the lifecycle, the metabolic changes associated with obesity, behavioral management of obesity, nutrient metabolism and exercise, water and electrolyte balance during exercise, nutritional ergogenic aids, nutrition-strength and performance enhancement. Prereq: PGY 412G, and BCH 401G or equivalent or consent of instructor. (Same as NS/PT 605.)

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**CNU 606 MOLECULAR BIOLOGY APPLICATIONS IN NUTRITION. (2)**

Focus will be on the use of the most recently developed techniques and model systems in molecular biology for studying nutrient regulation of gene expression. Examples include current problems in nutrition such as models for engineering plants containing more desirable nutrient sources (fats); for studying effects of various nutrients in transgenic mice on tumor suppressor genes and oncogene expression, that are important in cancer prevention; and for studying nutrient effects on genes that modulate obesity. Prereq: BCH 501 and 502 or equivalent; or BCH 401G and consent of instructor. (Same as NS 606.)

**CNU 608 NUTRITIONAL IMMUNOLOGY. (3)**

Theories and mechanisms of immunity will be introduced. The effects of nutrition on immunity will be discussed from experimental and clinical perspectives. A lecture and problem-based learning approach with incorporation of student presentations, three hours per week. Prereq: PGY 412G and CNU 601, or consent of instructor. (Same as NS 608.)

**CNU 609 ETHICS IN CLINICAL SCIENCES RESEARCH. (1)**

Students will examine ethical issues in biomedical research using a case-study approach. Representative issues addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, scientific misconduct, and informed consent. Prereq: Graduate student status. (Same as CD/CLS/PT/RAS 610.) (Same as NS 609.)

**#CNU 611 ADVANCED MEDICAL NUTRITION THERAPY. (2)**

The overall course objective is for the advanced health care professional to gain an in-depth working knowledge and set of skills in medical nutrition therapy of acute and chronic conditions, including pediatrics that builds upon previous applied nutrition course work and/or experience. Prereq: PGY 206 or equivalent; BCH 401G or equivalent; advanced nutrition course or consent of instructor.

**#CNU 612 ASSESSMENT SKILLS FOR THE CLINICAL NUTRITIONIST. (2)**

The goal of this course is to provide the Clinical Nutrition masters student with the skills necessary to elicit a comprehensive medical history, perform basic physical examination techniques appropriate for nutritional assessment, evaluate and interpret laboratory test results, and systematically report their findings in appropriate oral and written formats. Prereq: Admission into the Center for Nutritional Sciences Masters with emphasis in Clinical Nutrition or by consent of instructor.

**\*CNU 613 APPLIED NUTRITION AND DISEASE PREVENTION. (2)**

This course is designed to give the medical and health professional student an understanding of the basic principles of normal nutrition and medical nutrition therapy during the course of health and disease. Areas to be covered include: general principles of macro- and micronutrients; the basics of nutritional assessment; the Recommended Dietary Allowances and Dietary Reference Intakes; the "MyPyramid" Food Guide Pyramid; nutritional needs throughout the life cycle; determination of energy and macronutrient requirements; and nutrition for health promotion and disease prevention, e.g., cardiovascular, diabetes, renal, pulmonary, cancer, AIDS, gastrointestinal; weight maintenance/weight loss. Prereq: Completion of a 400 or 500 level nutrition course or consent of instructor.

**CNU 701 NUTRITION AND CHRONIC DISEASES, (4)**

Selected topics in nutritional sciences as related to health and chronic diseases, e.g., gastrointestinal disease, cancer, AIDS, diabetes, cardiovascular disease, obesity, including drug-nutrient interactions. Prereq or concur: NS/CNU 601, NS/ASC 602. (Same as NS 701.)

**CNU 702 CLINICAL/WELLNESS NUTRITION PROBLEM-BASED CASE STUDIES. (1-3)**

A problem-based learning approach to case studies is integrated with a traditional didactic approach to offer options in therapeutic nutrition, and/or health promotion. Efforts are directed toward patient, worksite and laboratory data interpretation as well as patient education. Students are directed to develop independent critical thinking related to class presentations including case studies regarding rotations through various medical or health services e.g. surgery, pediatrics, nutrition support and health promotion. Prereq: NS/CNU 601, NS/ASC 602, NS/CNU 701, NS/NFS 610 and graduate status or consent of instructor. (Same as NS 702.)

**CNU 704 CURRENT TOPICS IN NUTRITIONAL SCIENCES. (1)**

This course is designed to develop the student's independent thinking and critical analysis related to various nutritional sciences issues. These skills will be developed through reading assignments and group discussion related to current topics in nutrition. Prereq: Consent of instructor. (Same as NFS/NS 704.)

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**CNU 782 SPECIAL PROBLEMS.**

**(1-6)**

Independent advanced work on a special problem in nutritional sciences. Prereq: Consent of graduate advisor. (Same as NFS/NS 782.)

**CNU 790 RESEARCH IN NUTRITIONAL SCIENCES.**

**(0-6)**

Research work involving original investigation. May be repeated to a maximum of 18 credits. Prereq: Consent of graduate advisor. (Same as NFS/NS 790.)