

NS

Nutritional Sciences

**NS 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 CNU 601.)

**NS 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/CNU 602.)

**NS 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 CNU/FSC 603.)

**NS 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 CNU/PT 605.)

**NS 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 CNU 606.)

**NS 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 CNU 608.)

**NS 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 CNU 609.)

**NS 623 PROFESSIONAL DEVELOPMENT FOR SCIENTISTS IN TRAINING. (3)**

The purpose of this course is to introduce graduate students to useful topics in their quest to attain and retain a tenure track researcher position (or equivalent) at some point in their scientific future. These subjects are not always taught by mentors or through a traditional curriculum, but they are of utmost importance in a successful career. A breadth of issues will be presented that many principal investigators would say they wished they learned in graduate school and should give students the resources to become competitive scientific professionals. (Same as PHA 623.)

**NS 640 HUMAN NUTRITION: ASSESSMENT. (3)**

Assessment of dietary, anthropometric and biochemical parameters of nutritional status in health and disease. Lecture, two hours; laboratory, three hours per week. Prereq: NFS 510, NFS 511 or equivalent. (Same as NFS 640.)

**NS 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 CNU 701.)

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- NS 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 CNU 702.)
- NS 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 CNU/NFS 704.)
- NS 748 MASTER'S THESIS RESEARCH. (0)**  
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed. (Same as NFS 748.)
- NS 749 DISSERTATION RESEARCH. (0)**  
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.
- NS 767 DISSERTATION RESIDENCY CREDIT. (2)**  
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.
- NS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)**  
May be repeated to a maximum of 12 hours. (Same as NFS 768.)
- NS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)**  
May be repeated indefinitely.
- NS 771 GRADUATE SEMINAR IN NUTRITIONAL SCIENCES. (0-1)**  
Reports and discussion on recent research and current literature in nutritional sciences. May be repeated to a maximum of eight credits. Prereq: Graduate standing and consent of instructor for non-NS students enrolled for one credit.
- NS 782 SPECIAL PROBLEMS. (1-6)**  
Independent advanced work on a special problem in nutritional sciences. Prereq: Consent of graduate advisor. (Same as CNU/NFS 782.)
- NS 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 CNU/NFS 790.)