

## NS

## Nutritional Sciences

### **NS 601 MACRONUTRIENT METABOLISM.**

**(4)**

Emphasis will be on macronutrient assimilation and utilization and will include lectures, discussions and student presentations related to energy balance and protein-lipid-carbohydrate metabolism and its relationship to health maintenance. This course integrates biochemistry, physiology and nutrition with regards to macronutrient metabolism. Prereq: NFS 311 and PGY 206 or equivalent or consent of instructor. (Same as CNU 601.)

### **NS 602 MICRONUTRIENT METABOLISM.**

**(4)**

Detailed study of the properties, metabolism, biochemical and physiological functions and interactions of vitamins and minerals, and their relationships to deficiency symptoms and toxicity. Prereq: BCH 401G or consent of instructor. (Same as ASC 602.)

### **NS 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 CNU 604.)

### **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 607 FOOD RELATED BEHAVIORS.**

**(3)**

This team-taught course will provide background in topics and methods in food related behaviors to students in Nutritional Sciences and other interested students. The course will follow a problem-based learning approach, and will consist of 3 out of 4 modules in any given year. The four modules will be Social and Cultural Perspectives on Food, Psychological Perspectives on Food and Food Behaviors, Challenges to Community Food Security, and International Issues in Nutrition. (Same as ANT 607, NFS 607, BSC 607.)

### **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 620 NUTRITION AND AGING.**

**(2)**

Emphasis on current research in nutrition and aging, nutrition needs of the elderly and nutrition-related diseases associated with aging. Prereq: NFS 510 and 511 or equivalent. (Same as NFS 620.)

### **NS 630 ADVANCED COMMUNITY NUTRITION.**

**(3)**

Study of nutrition surveys and of bases for judging community nutrition. Emphasis is placed upon economic, geographic, social and educational causes of malnutrition. Experience is given in development of nutrition programs. May be repeated to a maximum of six credits. Prereq: NFS 503. (Same as NFS 630.)

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- 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 651 TOPICS IN NUTRITIONAL SCIENCES I.** (2)  
Faculty from different disciplines will provide in-depth coverage of selected topics in nutritional sciences as related to health and disease, e.g. nutrition and gastrointestinal diseases, diabetes, cancer, cardiovascular disease. Prereq or concur: Six credit hours from ASC 681, 683, 687, ASC/NFS 685, NFS 610, CNU 601 or consent of instructor.
- NS 652 TOPICS IN NUTRITIONAL SCIENCES II.** (2)  
Faculty from different disciplines will provide in-depth coverage of selected topics in nutritional sciences as related to health and biological functions (e.g. nutrition and exercise, stress, and environmental interactions). Prereq or concur: Six credit hours from ASC 681, 683, 687. ASC/NFS 685, NFS 610, CNU 601 or consent of instructor.
- †**NS 680 LABORATORY METHODS IN NUTRITIONAL SCIENCES.**
- 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.)
- 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.

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**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.)