Nutritional Sciences (NUSC)

nusc.uconn.edu

5100. Concepts of Nutrition

Two credits. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory).

An introduction to the broad field of nutrition. Intended for entering graduate students, the course provides a conceptual framework for research and study in the nutritional sciences.

5200. Macronutrient Metabolism

Three credits. Prerequisite: MCB 5001.

The digestion, absorption/transport and metabolism of carbohydrates, protein/amino acids and lipids; their functions, metabolic pathways and interrelationships; mechanisms regulating their metabolism; methodologies for studying metabolism and assessing nutrient requirements in man and animals.

5300. Vitamins and Minerals

Three credits. Prerequisite: MCB 5001.

Comprehensive study of vitamins, trace elements, and selected macrominerals, including biochemical function(s), metabolic pathways, interactions, and toxicities.

5390. Field Work on Community Nutrition

Variable (1-6) credits.

Supervised field studies of community nutrition problems and visits with community agencies and families. Readings, conferences and reports required.

5394. Seminar

One credit. Prerequisite: NUSC 5100. May be repeated for a maximum of four credits.

Students develop the skills required for the analysis and presentation of current literature and research problems.

5398. Special Topics in Nutrition

Variable (1-6) credits. Prerequisite: Instructor consent.

Advanced study in a given area of nutritional science.

5399. Independent Study in Nutritional Science

Variable (1-6) credits. Prerequisite: Instructor consent. May be repeated for a total of nine credits.

Research problems or critical review of literature in any area of nutrition.

5400. Molecular Techniques and Instrument Analysis in Nutrition

Two credits. Prerequisite: MCB 2000 or equivalent.

Provide hands-on experience performing basic molecular nutrition techniques and cover theoretical bases and application.

5500. Food Colloids and Nanotechnology

Three credits. Recommended preparation: NUSC 5200.

Comprehensive study on properties and structures of food colloids, including lipids, proteins and carbohydrates, from nanotechnology perspective. Development of food colloids-based nanoscale systems for applications in the context of food and nutrition.

6311. Regulation of Food Intake and Energy Balance

Three credits. Prerequisite: NUSC 5200.

Central and peripheral regulation of energy balance and how this affects body weight and risk for chronic disease. Relative contribution of genetic and metabolic factors, diet, and exercise on the pathophysiology of obesity.

6313. Nutrition and Gene Expression

Three credits. Prerequisite: MCB 5001.

Regulation of eukaryotic gene expression by specific nutrients, hormones, and metabolites. Transcriptional, post-transcriptional, and translational mechanisms.

6315. Lipid Metabolism in Health and Disease

Three credits.

Comprehensive study of lipid and lipoprotein metabolism. Influence of diet, drugs, exercise and obesity. Overview of relationship between genetics, lifestyle factors and chronic disease.

6317. Nutritional Epidemiology

Three credits. Prerequisite: Instructor consent.

Principles and applications of nutritional epidemiology with emphasis on research design.

6319. Research Design and Methods in Nutritional Sciences

Three credits. Prerequisite: NUSC 5200 and 5300.

Basic concepts and methodologies of research in public health and nutritional sciences, research proposal writing and in-class presentation.