

Nutritional Sciences and Toxicology

Overview

The research and curriculum of the Department of Nutritional Sciences and Toxicology address the experimental biology of nutrients, phytochemicals, and diet-borne toxicants; using the techniques of modern biology and chemical analyses to understand the relationships among diet, the metabolic genome, and optimal health/chronic disease. Our goals are to determine the molecular mechanisms of diet's effects on health and the contribution of individual genotype to dietary responses and disease risk. This approach of metabolic biology will provide detailed insight into the impact of diet on human health and chronic disease risk. We seek to translate lab and model systems data to human physiology and to provide outreach through cooperative extension.

Undergraduate Program

Nutritional Sciences: Physiology and Metabolism (<http://guide.berkeley.edu/archive/2022-23/undergraduate/degree-programs/physiology-and-metabolism/#abouttheprogramtext>) Major

Nutritional Sciences: Toxicology (<http://guide.berkeley.edu/archive/2022-23/undergraduate/degree-programs/nutritional-sciences-toxicology/>) Major, Minor

Nutritional Sciences: Dietetics (<http://guide.berkeley.edu/archive/2022-23/undergraduate/degree-programs/dietetics/>) Major

Nutritional Sciences (<http://guide.berkeley.edu/archive/2022-23/undergraduate/degree-programs/physiology-and-metabolism/#abouttheprogramtext>) Minor

Graduate Program

Metabolic Biology (<http://guide.berkeley.edu/archive/2022-23/graduate/degree-programs/metabolic-biology/>) MS, PhD

Molecular Toxicology (<http://guide.berkeley.edu/archive/2022-23/graduate/degree-programs/molecular-toxicology/>) PhD

Nutritional Sciences and Toxicology

Expand all course descriptions [+] Collapse all course descriptions [-]

NUSCTX 10 Introduction to Human Nutrition 3 Units

Terms offered: Fall 2023, Summer 2023 Second 6 Week Session, Fall 2022

This course focuses on relationships between diet and health, and responses of the human body to diet and food components, including macro and micro nutrients, water, phytochemicals, and alcohol. This course also provides an overview of the interplay between nutrients and physiological and behavioral responses. Lectures, which address contributions of diet to optimal health or disease risk, are based on current nutritional, biochemical, and medical knowledge. Goals include enabling students to make informed decisions about their nutritional needs and current issues concerning nutrition.

Introduction to Human Nutrition: Read More [+]

Rules & Requirements

Credit Restrictions: Students will receive no credit for NUSCTX 10 after completing NUTRSCI 10, NUTRSCI S10X, or NUSCTX 10S. A deficient grade in NUSCTX 10 may be removed by taking NUSCTX 10S.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of discussion per week

Summer:

6 weeks - 6 hours of lecture and 1.5 hours of discussion per week

8 weeks - 4 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Introduction to Human Nutrition: Read Less [-]

NUSCTX 10S Introduction to Human Nutrition: Managing Life 3 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

The course will center on how the body processes nutrients, as well as other components of diet such as water, alcohol, and plant constituents. We will explore how these processes can have a lasting effect on our health and behavior. Students will gain a general understanding of basic human nutrition, how key biological, physical, social and psychological factors affect how we eat. The goal is that students gain sufficient knowledge to be able to make informed dietary choices based on individual nutritional needs, and to understand how these choices can have a long lasting impact on one's life. The lecture will be delivered in two modalities 1) In-person lectures 2) Lectures will be streamed and recorded for viewing later.

Introduction to Human Nutrition: Managing Life: Read More [+]

Rules & Requirements

Credit Restrictions: Students will receive no credit for NUSCTX 10S after completing NUSCTX 10. A deficient grade in NUSCTX 10S may be removed by taking NUSCTX 10.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Aponte

Introduction to Human Nutrition: Managing Life: Read Less [-]

NUSCTX 11 Introduction to Toxicology 3 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Discussion of principles for the evaluation of toxic hazard of natural and man-made substances present in the environment, the workplace, food, drink, and drugs. The bases for species selectivity, individual variations in sensitivity and resistance, and the combined effects of toxic agents will be addressed. Issues related to the impact of toxic agents in modern society will be emphasized.

Introduction to Toxicology: Read More [+]

Rules & Requirements

Prerequisites: Open to students pursuing science and non science majors

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Vulpe, Nomura, Wang

Introduction to Toxicology: Read Less [-]

NUSCTX 20 Personal Food Security and Wellness 2 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022

Food insecurity is broadly defined as having unreliable access to adequate foods resulting in disrupted eating patterns or reduced food intake due to a lack of money and other resources for food. NST 20 will improve nutrition-related behaviors and support students in need of improving their food security status. Students whom have limited cooking and food preparation experience will acquire foundational nutrition knowledge and basic cooking skills to be able to prepare healthful and affordable meals in consideration of existing factors, such as: food availability; food budgeting; and time management.

Personal Food Security and Wellness: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Personal Food Security and Wellness: Read Less [-]

NUSCTX 24 Freshman Seminar 1 Unit

Terms offered: Fall 2023, Spring 2023, Fall 2022

The Freshman Seminar Program has been designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small-seminar setting. Freshman seminars are offered in all campus departments, and topics vary from department to department and semester to semester.

Freshman Seminar: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: The grading option will be decided by the instructor when the class is offered. Final Exam To be decided by the instructor when the class is offered.

Instructor: Chang

Formerly known as: Nutritional Sciences 24

Freshman Seminar: Read Less [-]

NUSCTX 30 Sports Nutrition 3 Units

Terms offered: Summer 2023 Second 6 Week Session, Summer 2021

First 6 Week Session, Summer 2020 Second 6 Week Session

A survey course of nutrition with an emphasis on the relationships among diet, physical activity, and health; exploration of the changes in the metabolism of carbohydrates, lipids, protein and water; discussion of the function of vitamins and minerals; practical application of evidence-based dietary recommendations for common sports and varying physical intensities.

Sports Nutrition: Read More [+]

Rules & Requirements

Prerequisites: None

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Summer:

6 weeks - 9 hours of lecture per week

8 weeks - 6 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Deegan

Sports Nutrition: Read Less [-]

NUSCTX 98 Directed Group Study 1 - 3 Units

Terms offered: Spring 2019, Fall 2016, Spring 2016

Study of special topics in nutritional sciences that are not covered in depth in regular courses.

Directed Group Study: Read More [+]

Rules & Requirements

Prerequisites: Lower division standing and consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-3 hours of directed group study per week

Summer:

6 weeks - 3-8 hours of directed group study per week

8 weeks - 2-6 hours of directed group study per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Formerly known as: Nutritional Sciences 98

Directed Group Study: Read Less [-]

NUSCTX 103 Nutrient Function and Metabolism 4 Units

Terms offered: Fall 2023, Fall 2022, Fall 2021

Delivery of nutrients from foods to mammalian cells; major metabolic pathways; function of nutrients in energy metabolism, nitrogen and lipid metabolism, structural tissues and regulation; essentiality, activation, storage, excretion, and toxicity of nutrients.

Nutrient Function and Metabolism: Read More [+]

Rules & Requirements

Prerequisites: Required: Bio 1A, Recommended: MCB 32 and 102

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Sul, Chen

Nutrient Function and Metabolism: Read Less [-]

NUSCTX 104 Food, Culture, and the Environment 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

This nutrition course with an anthropological perspective examines why we eat what we eat by addressing environmental, socio-economic, political, cultural, and personal components of the human diet. Cuisines from a sampling of countries and regions are discussed.

Food, Culture, and the Environment: Read More [+]

Rules & Requirements

Prerequisites: 10 recommended

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture per week

Summer: 6 weeks - 5 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Food, Culture, and the Environment: Read Less [-]

NUSCTX 104AC Human Food Practices AC 3 Units

Terms offered: Prior to 2007

This course will broadly address the historical, ecological, socioeconomic, biological, political, cultural, and personal components of the human diet in addition to nutrition problems, programs, and consumer protection. It is a nutrition course with an anthropological slant that examines why we eat what we eat and contributes to the pursuit of multidisciplinary degrees in nutrition policy and planning. As an American Cultures course, we will also discuss cuisines from a variety of different countries and regions, with a specific focus on those in America, and examine how race and ethnicity affect diet, food access, and relationship with food. Introduction to Human Nutrition (NST10) is recommended as a prerequisite.

Human Food Practices AC: Read More [+]

Rules & Requirements

Prerequisites: Nutritional Sciences and Toxicology 10 (Recommended)

Requirements this course satisfies: Satisfies the American Cultures requirement

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer: 8 weeks - 4 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Rasmussen

Human Food Practices AC: Read Less [-]

NUSCTX W104 Food, Culture, and the Environment AC 3 Units

Terms offered: Summer 2023 8 Week Session, Summer 2022 8 Week Session, Summer 2021 8 Week Session

This course will broadly address the historical, ecological, socioeconomic, biological, political, and cultural environments impacting the human diet in addition to nutrition problems, programs, and consumer protection. It is a nutrition course with an anthropological slant that examines why we eat what we eat and contributes to the pursuit of multidisciplinary degrees in nutrition policy and planning. As an American Cultures course, we will discuss cuisines from a variety of different countries and regions, with a specific focus on those in America, and examine how race and ethnicity affect diet, food access, and the human relationship with food.

Food, Culture, and the Environment AC: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Nutritional Sciences and Toxicology 10 (Recommended)

Requirements this course satisfies: Satisfies the American Cultures requirement

Hours & Format

Summer: 8 weeks - 4 hours of web-based lecture and 0 hours of web-based discussion per week

Online: This is an online course.

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Rasmussen

Food, Culture, and the Environment AC: Read Less [\[-\]](#)

NUSCTX 105 Mediterranean Nutrition and Food System 3 Units

Terms offered: Summer 2023 10 Week Session, Summer 2022 10 Week Session

Studies consistently demonstrate that the Mediterranean dietary pattern reduces risk of chronic disease and adherence rates are higher compared to other diets prescribed to promote health. More recently, the Mediterranean diet is highlighted as a diet with a relatively lower environmental impact. This course will examine the key elements of the Mediterranean diet, compare different types of Mediterranean diets, and discuss how beneficial aspects of this diet are found around the world. Additionally, students in this course will study food systems through specific ingredients produced on the beautiful and culturally rich island of Chios, Greece, where the course is based.

Mediterranean Nutrition and Food System: Read More [\[+\]](#)

Hours & Format

Summer: 4 weeks - 6 hours of lecture, 12 hours of discussion, and 4 hours of fieldwork per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Rasmussen

Mediterranean Nutrition and Food System: Read Less [\[-\]](#)

NUSCTX 108A Introduction and Application of Food Science 3 Units

Terms offered: Fall 2023, Fall 2022, Fall 2021

Evaluation of the chemical, physical, functional, and nutritional properties of foods. Emphasis on how these properties, and preparation, processing, and storage, influence quality characteristics of food products. Introduction and Application of Food Science: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Molecular and Cell Biology 102 (may be taken concurrently), or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Rasmussen

Introduction and Application of Food Science: Read Less [\[-\]](#)

NUSCTX 108B Application of Food Science Laboratory 1 Unit

Terms offered: Fall 2022, Fall 2021, Fall 2020

Experimental evaluation of the chemical, physical, functional, and nutritional properties of foods, and the changes occurring during preparation that affect quality characteristics of food products.

Application of Food Science Laboratory: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: 108A or concurrent enrollment

Hours & Format

Fall and/or spring: 15 weeks - 3.5 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Reaver

Application of Food Science Laboratory: Read Less [\[-\]](#)

NUSCTX 110 Toxicology 4 Units

Terms offered: Fall 2022, Fall 2021, Fall 2020

A comprehensive survey of the principles of modern toxicology and their applications in evaluating the safety of foods, additives and environmental contaminants. Mechanisms of metabolic activation, detoxification, gene regulation, and selective toxicity are emphasized.

Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: BIOLOGY 1A, 1AL, and Chemistry 3B (or equivalent courses)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Wang, Nomura

Toxicology: Read Less [\[-\]](#)

NUSCTX C114 Pesticide Chemistry and Toxicology 3 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

Chemical composition of pesticides and related compounds, their mode of action, resistance mechanisms, and methods of evaluating their safety and activity.

Pesticide Chemistry and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Introductory courses in organic chemistry and biology, or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Casida

Also listed as: ESPM C148

Pesticide Chemistry and Toxicology: Read Less [\[-\]](#)

NUSCTX 115 Principles of Drug Action 2 Units

Terms offered: Spring 2022, Spring 2021, Spring 2020

Basic principles and quantitative aspects of drug action and risk/benefit as applied to the discovery, design, and development of human therapeutics. The course will highlight the importance of integrating pharmacology, toxicology, and pharmacokinetics to create effective and safe treatments for human disease. Special emphasis will be placed on pharmacogenomics and variation in individual response.

Principles of Drug Action: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: 110, and Molecular and Cell Biology 102

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Johnson

Principles of Drug Action: Read Less [\[-\]](#)

NUSCTX 120 Eating Behavior and Disordered Eating 2 Units

Terms offered: Fall 2023, Spring 2012, Spring 2011

This course will be to provide the tools necessary to begin the processes of understanding the interplay between our physiological needs for food and the external factors affecting our behavior that can override our body's needs. We will cover some basic concepts of nutrient metabolism, that relates to our physiology which is affected by environmental and social factors. Broad areas included will be: The importance of food as energy, Gut-brain axis and food intake regulation, Self-induced restrictive eating behavior and semi starvation, Programming of eating patterns, and the use of nutrients as a drug.

Eating Behavior and Disordered Eating: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: NUSCTX 10 or NUSCTX 10S recommended but not required

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Aponte

Eating Behavior and Disordered Eating: Read Less [\[-\]](#)

NUSCTX 121 Computational Toxicology 3 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Introducing the use of bioinformatics tools useful in linking the molecular structure of chemicals to the toxicity they induce in biological systems. Discussions on the highly interactive process of collecting, organizing, and assimilating chemistry and toxicology information - and the use of computer programs to visualize, browse, and interpret this information to discover chemical structure-toxicity correlations. The importance of these concepts in drug discovery and development and food safety will be emphasized.

Computational Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: BIOLOGY 1A, 1AL, and Chemistry 3B (or equivalent courses). NST 110 also recommended

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Johnson

Computational Toxicology: Read Less [\[-\]](#)

NUSCTX 135 Food Systems Organization and Management 4 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Principles of organization and management applied to institutional food service systems: production and delivery systems, management of resources, quality assurance, equipment, layout, marketing, personnel management, fiscal management. Laboratory experiences, projects and field work in institutional situations.

Food Systems Organization and Management: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 3 hours of fieldwork per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Rasmussen

Food Systems Organization and Management: Read Less [\[-\]](#)

NUSCTX 145 Nutrition Education and Counseling 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

This course will focus on communicating nutrition messages through nutrition education and nutrition counseling. Students will develop and implement theory-based nutrition education interventions and conduct mock counseling sessions for various populations and conditions. Strategies for effective nutrition instruction, counseling, and behavior change will be discussed.

Nutrition Education and Counseling: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: 161A and 161B or concurrent enrollment in these courses. Dietetic majors only

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: McCoin

Nutrition Education and Counseling: Read Less [\[-\]](#)

NUSCTX 160 Metabolic Bases of Human Health and Diseases 4 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

The physiological bases of human nutrient homeostasis and common disorders resulting from over and under nutrition will be discussed with a specific focus on macronutrients. Topics related to nutrient deficiency and excess will include adaptation to starvation and the effects of caloric restriction on life-span, obesity and its complications, lipoprotein metabolism and cardiovascular disease, as well as a detailed discussion of the causes, disease mechanisms, and treatment of diabetes mellitus. Metabolic Bases of Human Health and Diseases: Read More [+]

Rules & Requirements

Prerequisites: Required: Bio 1A, Recommended: MCB 102 or 103

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Stahl, Napoli

Metabolic Bases of Human Health and Diseases: Read Less [-]

NUSCTX 161A Medical Nutrition Therapy 4 Units

Terms offered: Fall 2022, Fall 2021, Fall 2020

This fall course serves as the first of a two part series that addresses the nutritional component of treating disease. The Nutrition Care Process of the Academy of Nutrition and Dietetics provides the framework for nutritional status assessment, diagnosis, nutrition intervention, and evaluation. Disease pathophysiology, diagnosis, medical and pharmacological treatments, and nutritional therapies for prevention and treatment are explored for conditions common throughout the lifecycle. The first part focuses on cardiovascular disease. Additional diseases are addressed in 161B in the spring semester. This course will provide an opportunity to apply knowledge of MNT through case studies and various activities.

Medical Nutrition Therapy: Read More [+]

Rules & Requirements

Prerequisites: 103 and 160

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: McCain

Medical Nutrition Therapy: Read Less [-]

NUSCTX 161B Medical Nutrition Therapy II 4 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

This is the second course of a two part series that is a continuation of addressing nutrition as a component of disease treatment. The Nutrition Care Process will be applied and disease pathophysiology, diagnosis, medical and pharmacological treatments and nutritional therapies for prevention and treatment will be explored for various disease states. Medical Nutrition Therapy II: Read More [+]

Rules & Requirements

Prerequisites: Nutritional Science and Toxicology 103, 160, and 161A, or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Medical Nutrition Therapy II: Read Less [-]

NUSCTX 166 Nutrition in the Community 3 Units

Terms offered: Fall 2022, Fall 2021, Fall 2020

This course addresses basic nutrition in the context of the community. It explores nutrition programs that serve various segments of the population and the relationships of these programs to nutrition policy at the local, national, and international levels. Community assessment is used as the basis for program planning, implementation, and evaluation. The specific needs of population groups (infants, children, women, and the elderly) are considered and questions of food security are investigated.

Nutrition in the Community: Read More [+]

Rules & Requirements

Prerequisites: 10 recommended; upper division standing required

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Henderson

Nutrition in the Community: Read Less [-]

NUSCTX 170 Experimental Nutrition Laboratory 4 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022

Basic principles and techniques used in human and animal nutrition research. Students design, execute, and analyze experiments.

Experimental Nutrition Laboratory: [Read More](#) [+]

Rules & Requirements

Prerequisites: Nutritional Sciences and Toxicology 103 and a course in statistics

Credit Restrictions: Students will receive no credit for Nutritional Sciences and Toxicology 170 after taking Nutritional Science and Toxicology 171 or Nutritional Sciences 171. A deficient grade in Nutritional Sciences 170 may be removed by taking Nutritional Sciences and Toxicology 170.

Hours & Format

Fall and/or spring: 15 weeks - 8 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Instructor: Leitman

Experimental Nutrition Laboratory: [Read Less](#) [-]

NUSCTX 171 Nutrition and Toxicology Laboratory 4 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017

Basic principles and techniques used in human and animal nutrition and toxicology research. Students design, execute, and analyze experiments. Nutrition and Toxicology Laboratory: [Read More](#) [+]

Rules & Requirements

Prerequisites: Nutritional Sciences and Toxicology 110

Credit Restrictions: Students will receive no credit for Nutritional Sciences and Toxicology 171 after taking Nutritional Sciences and Toxicology 170 or Nutritional Sciences 170. A deficient grade in Nutritional Sciences 171 may be removed by taking Nutritional Sciences and Toxicology 171.

Hours & Format

Fall and/or spring: 15 weeks - 8 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Leitman

Nutrition and Toxicology Laboratory: [Read Less](#) [-]

NUSCTX 190 Introduction to Research in Nutritional Sciences 1 Unit

Terms offered: Fall 2023, Spring 2023, Fall 2022

Students will be asked to prepare an oral and written report on a topic selected from the current research literature in nutritional sciences.

Introduction to Research in Nutritional Sciences: [Read More](#) [+]

Rules & Requirements

Prerequisites: 103

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Formerly known as: Nutritional Sciences 190

Introduction to Research in Nutritional Sciences: [Read Less](#) [-]

NUSCTX 192 Junior Seminar in Dietetics 1 Unit

Terms offered: Fall 2021, Fall 2020, Fall 2019

This seminar course explores the professional roles and responsibilities of dietitians as well as career opportunities within the field. Current issues in the practice of dietetics will be discussed. Students will do research and present an oral report to the class. Each student will begin to develop his or her professional portfolio.

Junior Seminar in Dietetics: [Read More](#) [+]

Rules & Requirements

Prerequisites: Upper division standing and consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Junior Seminar in Dietetics: [Read Less](#) [-]

NUSCTX 193 Introduction to Research in Toxicology 1 Unit

Terms offered: Spring 2022, Spring 2021, Spring 2020

Students will be asked to prepare an oral and written report on a topic selected from the current research literature in toxicology.

Introduction to Research in Toxicology: Read More [+]

Rules & Requirements

Prerequisites: 110 or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Kubo

Formerly known as: Nutritional Sciences 193

Introduction to Research in Toxicology: Read Less [-]

NUSCTX 194 Senior Seminar in Dietetics 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

This course will cover the changes that are occurring in the field of dietetics. Students will explore revisions of the national nutritional standards and guidelines, issues related to complementary and alternative nutrition practices, the area of genomics as it is expected to affect practice, professional ethics in the changing health care environment, reimbursement for professional services, legislation related to the field of dietetics, and other emerging issues.

Senior Seminar in Dietetics: Read More [+]

Rules & Requirements

Prerequisites: Upper division standing and consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Senior Seminar in Dietetics: Read Less [-]

NUSCTX H196 Honors Research 4 Units

Terms offered: Spring 2018, Fall 2016, Spring 2016

Supervised independent honors research specific to aspects of the Nutritional Science and Toxicology major, followed by an oral presentation, and a written report.

Honors Research: Read More [+]

Rules & Requirements

Prerequisites: Upper division standing and minimum GPA. See CNR Honors website for current minimum GPA. http://nature.berkeley.edu/site/honors_program.php

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 12 hours of independent study per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Formerly known as: Nutritional Sciences H196

Honors Research: Read Less [-]

NUSCTX 197 Field Study in Food and Nutritional Sciences 1 - 4 Units

Terms offered: Summer 2023 10 Week Session, Summer 2022 10 Week Session, Fall 2016

Supervised experience in off-campus organizations relevant to specific aspects of foods and nutritional sciences. Regular individual meetings with faculty sponsor and written reports required.

Field Study in Food and Nutritional Sciences: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of fieldwork per week

Summer:

6 weeks - 1-9 hours of fieldwork per week

8 weeks - 1-7 hours of fieldwork per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Formerly known as: Nutritional Sciences 197

Field Study in Food and Nutritional Sciences: Read Less [-]

NUSCTX 198 Directed Group Study 1 - 3 Units

Terms offered: Fall 2022, Fall 2020, Spring 2020

Study of special topics in food science or nutrition that are not covered in depth in regular courses.

Directed Group Study: Read More [+]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-3 hours of directed group study per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Formerly known as: Nutritional Sciences 198

Directed Group Study: Read Less [-]

NUSCTX 199 Supervised Independent Study and Research 1 - 4 Units

Terms offered: Fall 2021, Fall 2017, Fall 2016

Upper division laboratory and independent research under the direction of a faculty supervisor. Written report required upon completion of the project.

Supervised Independent Study and Research: Read More [+]

Rules & Requirements

Prerequisites: Upper division standing and consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer:

6 weeks - 1-3 hours of independent study per week

8 weeks - 1-3 hours of independent study per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/
Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Formerly known as: Nutritional Sciences 199

Supervised Independent Study and Research: Read Less [-]

NUSCTX 200 Advanced Organismal Nutrition and Metabolism 3 Units

Terms offered: Spring 2011, Spring 2010, Spring 2009

Critical analysis of concepts and research methods relating to nutritional metabolism and its regulation in intact organisms is studied. Areas covered include the basis of nutrient requirements and nutritional assessment, integration of metabolic pathways, research techniques, nutritional diseases, and specific topics such as calcium, vitamins, and trace elements.

Advanced Organismal Nutrition and Metabolism: Read More [+]

Rules & Requirements

Prerequisites: 103, 160, and Molecular and Cell Biology 102 or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Instructor: Hellerstein

Formerly known as: Nutritional Sciences 200

Advanced Organismal Nutrition and Metabolism: Read Less [-]

NUSCTX 201 Metabolic Regulation 2 Units

Terms offered: Not yet offered

This Course will provide a graduate-level view of metabolism spanning the physiological, biochemical and molecular aspects of metabolic homeostasis. The course will emphasize four areas: history of metabolism research across primarily mammalian species; past and current available methodological tools to understand metabolism; established and emerging principles of metabolic regulation, with lessons learned from classic physiological and biochemical investigations, isotope tracing and modern molecular techniques and the clinical assessment of metabolism and targeting of metabolic regulation/signaling, including the therapeutic application of diet, pharmaceuticals, cell therapies, tissue culture/engineering, and genetic medicine.

Metabolic Regulation: Read More [+]

Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Formerly known as: Nutritional Sciences 201

Metabolic Regulation: Read Less [-]

NUSCTX 208 Foods 4 Units

Terms offered: Not yet offered

The course will begin by discovering the science of foods; the functional role of foods as ingredients; and the impact on food quality, acceptability and compatibility as measured by sensory evaluation methods. Students will then integrate their knowledge of chemistry and food science by modifying recipes for wellness and disease prevention and management. Students will explore food preparation techniques and world cuisines to further their appreciation of foods, eating patterns, and food trends across cultures. Students will apply principles of food safety and sanitation to the procurement, storage and production of foods. This course is designed to prepare MNSD students for supervised practice internships and a career as a registered dietitian.

Foods: [Read More](#) [+]

Objectives & Outcomes

Course Objectives: Applies an understanding of complementary and integrative nutrition by exploring culinary medicine and functional foods. (1.9.2).

Applies and demonstrates an understanding of agricultural practices and processes (3.4).

Applies principles of food safety and sanitation to the storage, production and service of food (3.3).

Demonstrates knowledge of and is able to manage food preparation techniques (1.12).

Develops and leads implementation of risk management strategies and programs. (5.5)

Gains a foundational knowledge on public and global health issues and nutritional needs by examining the sustainability and global supply of ingredients. (1.16, 1.16.2).

Integrates knowledge of chemistry and food science as it pertains to food and nutrition product development and when making modifications to food. (1.4).

Integrates the principles of cultural competence within own practice and when directing services (1.7).

The objective of the course is to provide an opportunity for students to meet the following Accreditation Council for Education in Nutrition and Dietetics competencies (competency number):

Applies knowledge of microbiology and food safety (1.3).

Rules & Requirements

Prerequisites: graduate student standing, course reserved for students in the MNSD program

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Foods: [Read Less](#) [-]

NUSCTX 210 Research Methods & Analysis in Nutritional Science 4 Units

Terms offered: Fall 2023

This course will familiarize students with current methodologies of assessing nutritional status through molecular biology, clinical/biochemical analysis, and dietary experimentation and analysis. Upon completion of this course, students will understand the work of a nutrition scientist, including asking scientific questions and generating hypotheses, using creativity and critical thinking to develop experimental design and execute laboratory procedures, as well as interpreting data and presenting (written and oral) findings from results obtained. Throughout the course, students will perform several nutritional assessments and compare and contrast the results to those obtained from a controlled analytical method and/or specimen.

Research Methods & Analysis in Nutritional Science: [Read More](#) [+]

Objectives & Outcomes

Course Objectives: Applies an understanding of environmental, molecular factors (e.g., genes, proteins, metabolites) and food in the development and management of disease. (1.1)

Applies current research and evidence-informed practice to services. (6.3)

Applies knowledge of math and statistics. (1.10)

Applies scientific methods utilizing ethical research practices when reviewing, evaluating, and conducting research. (6.2)

Demonstrates computer skills and uses nutrition informatics in the decision making process (1.13)

Incorporates critical thinking skills in practice. (6.1)

Uses effective communication, collaboration and advocacy skills. (7.2)

Rules & Requirements

Prerequisites: graduate student standing, course reserved for students in the MNSD program

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 6 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Research Methods & Analysis in Nutritional Science: [Read Less](#) [-]

NUSCTX 211A Introduction to Research in Nutritional Sciences 4 - 8 Units

Terms offered: Fall 2023, Fall 2022, Fall 2021

Supervised experimental work under the direction of individual faculty members, which introduces experimental methods and research approaches in metabolic biology/nutritional biochemistry.

Introduction to Research in Nutritional Sciences: [Read More](#) [+]

Rules & Requirements

Prerequisites: Restricted to graduate students in the metabolic biology graduate program with the consent of the principal investigator

Hours & Format

Fall and/or spring: 15 weeks - 4-4 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade. This is part one of a year long series course. A provisional grade of IP (in progress) will be applied and later replaced with the final grade after completing part two of the series.

Instructor: Napoli

Introduction to Research in Nutritional Sciences: [Read Less](#) [-]

NUSCTX 211B Introduction to Research in Nutritional Sciences 4 - 8 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Closely supervised experimental work under the direction of individual faculty members; an introduction to experimental methods and research approaches in areas of nutritional sciences.

Introduction to Research in Nutritional Sciences: [Read More](#) [+]

Rules & Requirements

Prerequisites: Restricted to graduate students in the nutrition program; consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 4-4 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade. This is part two of a year long series course. Upon completion, the final grade will be applied to both parts of the series.

Instructor: Napoli

Introduction to Research in Nutritional Sciences: [Read Less](#) [-]

NUSCTX 220 Molecular Toxicology 4 Units

Terms offered: Spring 2012, Spring 2011, Spring 2010

Molecular toxicology attempts to understand the mechanisms by which hazardous compounds cause their toxic effects. The course will focus on our understanding of the important tissue and cellular components involved in chemical exposure from entry to effect to exit. Topics include metabolism and mechanisms of toxins, toxicogenomics, toxin effects in individuals and groups, and tools to predict toxicology.

Molecular Toxicology: [Read More](#) [+]

Rules & Requirements

Prerequisites: 110 or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Instructor: Vulpe

Molecular Toxicology: [Read Less](#) [-]

NUSCTX 235 Food Systems Management 4 Units

Terms offered: Fall 2023

Principles of organization and management applied to institutional food service systems will be discussed and applied in this graduate level course. Topics will range from production and delivery systems, management of resources, quality assurance, equipment, layout, marketing, personnel management and fiscal management. Students will apply concepts through laboratory experiences, projects and engagement with institutional settings. ServSafe certification exam must be completed by the end of the semester.

Food Systems Management: Read More [+]

Objectives & Outcomes

Course Objectives: Applies knowledge of math and statistics.

Applies principles of food safety and sanitation to the storage, production and

service of food.

Demonstrates knowledge of and is able to manage food preparation techniques.

Demonstrates computer skills and uses nutrition informatics in the decision making process.

Oversees the purchasing, receipt and storage of products used in food production and services.

Applies a framework to assess, develop, implement and evaluate products, programs and services.

Applies and demonstrates an understanding of agricultural practices and processes.

Applies knowledge of social, psychological and environmental aspects of eating and food. / 1.6.3 Integrates knowledge of maximizing sustainability, food and water waste, reusable/ biodegradable items, local and global produce sourcing and access to food.

Applies principles of organization management.

Applies project management principles to achieve project goals and objectives.

Demonstrates leadership skills to guide practice.

Develops and leads implementation of risk management strategies and programs.

Directs the production and distribution of quantity and quality food products.

Leads quality and performance improvement activities to measure, evaluate and

improve program services, products and initiatives.

Rules & Requirements

Prerequisites: graduate student standing, course reserved for students in the MNSD program

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 3 hours of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Food Systems Management: Read Less [-]

NUSCTX 245 Counseling in Nutritional Sciences 2 Units

Terms offered: Not yet offered

This graduate level course will focus on applying behavior change theory in nutrition counseling. Strategies for effective nutrition counseling and behavior change will be discussed. Students will apply the Nutrition Care Process and utilize appropriate Medical Nutrition Therapy and theory-driven interventions to address behavior change. Integrated practice will occur through mock counseling sessions and role playing activities for various populations and conditions. This course is designed to prepare MNSD students for supervised practice internships and a career as a Registered Dietitian Nutritionist.

Counseling in Nutritional Sciences: Read More [+]

Objectives & Outcomes

Course Objectives: Applies knowledge of nutritional health promotion and disease prevention for individuals, groups and populations. (1.15)

Applies knowledge of social, psychological and environmental aspects of eating and food. (1.6)

Assumes professional responsibilities to provide safe, ethical and effective nutrition services. (7.1)

Implements or coordinates nutritional interventions for individuals, groups or populations.(2.4)

Integrates knowledge of nutrition and physical activity in the provision of nutrition care across the life cycle. (1.14)

Integrates the principles of cultural competence within own practice and when directing services. (1.7)

Uses effective communication, collaboration and advocacy skills. (7.2)

Utilizes the nutrition care process with individuals, groups or populations in a variety of practice settings. (2.3)

Rules & Requirements

Prerequisites: NST 261, Nutritional Assessment and the Lifespan, graduate student standing, course reserved for students in the MNSD program

Hours & Format

Fall and/or spring: 7 weeks - 2 hours of lecture and 2 hours of workshop per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Counseling in Nutritional Sciences: Read Less [-]

NUSCTX 250 Advanced Topics in Metabolic Biology 3 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Overview lectures and discussion of primary literature will be combined in this course to provide a working knowledge of principles, regulation, and experimental approaches in metabolic biology. Select topics ranging from molecular mechanism of metabolite synthesis and cellular signaling to integrative physiology of organismal metabolic homeostasis will be discussed with a particular emphasis on their connection to human diseases.

Advanced Topics in Metabolic Biology: Read More [+]

Objectives & Outcomes

Course Objectives: Use selective topics in metabolic biology to provide a working understanding of basic concepts and technical approaches in metabolic biology.

Student Learning Outcomes: Students learning outcomes will be focused on their ability to derive basic concepts and technical approaches in metabolic biology from the lectures and primary literature discussion.

Rules & Requirements

Prerequisites: Molecular and Cell Biology 102 or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Instructor: Nomura

Advanced Topics in Metabolic Biology: Read Less [-]

NUSCTX 260 Metabolic Bases of Human Health and Diseases Graduate Level 4 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

The physiological bases of human nutrient homeostasis and common disorders resulting from over and under nutrition will be discussed with a specific focus on macronutrients. Topics related to nutrient deficiency and excess will include adaptation to starvation and the effects of caloric restriction on life-span, obesity and its complications, lipoprotein metabolism and cardiovascular disease, as well as a detailed discussion of the causes, disease mechanisms, and treatment of diabetes mellitus. Metabolic Bases of Human Health and Diseases Graduate Level: Read More [+]

Objectives & Outcomes

Course Objectives: After completing the lectures and discussion sessions, students will have developed an advanced understanding of the contribution of nutrients and metabolic pathway regulation to the development of human diseases. This will be a direct extension and disease oriented application of the general metabolic pathways discussed in NST103. After this unit, the students will have gained insights into basic concepts in metabolic biology, their relationship to common disorders such as diabetes, cancer, and cardiovascular disease as well as the basis for metabolism based pharmacological interventions. In addition critical reading of primary literature and the presentation of advanced topics in metabolic biology will be practiced.

Rules & Requirements

Prerequisites: MCB110, NST103 or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Instructors: Stahl, Napoli, Krauss

Metabolic Bases of Human Health and Diseases Graduate Level: Read Less [-]

NUSCTX 261 Nutrition Care Process and the Lifespan 4 Units

Terms offered: Fall 2023

Course explores nutritional status across the lifespan. The NCP will be utilized as a framework to explore nutritional care throughout the lifespan. Students will determine nutritional status by considering anthropometrics and physical assessment, biochemical data, clinical findings, dietary intake, complementary and integrative therapies, and physical activity. Disease pathophysiology, diagnosis, medical and pharmacological treatments, and nutritional therapies and nutrition-related pharmacotherapy will be discussed for conditions common across the lifespan. Students will be responsible for utilizing medical terminology and documentation and for identifying relevant current research to support their nutritional recommendations.

Nutrition Care Process and the Lifespan: Read More [+]

Objectives & Outcomes

Course Objectives: Applies an understanding of anatomy, physiology and biochemistry. (1.2)

Applies an understanding of environmental, molecular factors (e.g. genes, proteins, metabolites) and food in the development and management of disease. (1.1)

Applies an understanding of the impact of complementary and integrative nutrition on drugs, disease, health and wellness. (1.9)

Applies current research and evidence-informed practice to services. (6.3)

Applies knowledge of medical terminology when communicating with individuals, groups and other health professionals. (1.11)

Applies knowledge of nutritional health promotion and disease prevention for individuals, groups and populations. (1.15)

Applies knowledge of pathophysiology and nutritional biochemistry to physiology, health and disease. (1.5)

Applies knowledge of pharmacology to recommend, prescribe and administer medical nutrition therapy. (1.8)

Applies knowledge of social, psychological and environmental aspects of eating and food. (1.6)

Implements or coordinates nutritional interventions for individuals, groups or populations. (2.4)

Incorporates critical thinking skills in practice. (6.1)

Integrates knowledge of nutrition and physical activity in the provision of nutrition care across the life cycle. (1.14)

Integrates nutritional biochemistry knowledge to make informed food and nutrition decisions for optimal health. (1.4.2)

Prescribes, recommends and administers nutrition-related pharmacotherapy. (2.5)

Selects, develops and/or implements nutritional screening tools for individuals, groups or populations. (2.2)

Utilizes the nutrition care process with individuals, groups or populations in a variety of practice settings. (2.3)

Rules & Requirements

Prerequisites: graduate student standing, course reserved for students in the MNSD program

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Nutrition Care Process and the Lifespan: Read Less [-]

NUSCTX 262 Medical Nutrition Therapy 4 Units

Terms offered: Not yet offered

The Nutrition Care Process of the Academy of Nutrition and Dietetics will be used to explore disease pathophysiology, diagnosis, medical and pharmacological treatments, and nutritional therapies. Students will examine and apply an understanding of complementary and integrative nutritional therapies on drugs, disease, and health. The conditions that will be studied include cardiovascular disease, upper and lower gastrointestinal diseases, hepatic disease, renal disease, diabetes, diseases of the pancreas, cancer, HIV/AIDS, pulmonary disease, and critical illness. Students will be responsible for utilizing medical terminology and documentation and for identifying relevant current research to support their nutritional recommendations.

Medical Nutrition Therapy: Read More [+]

Objectives & Outcomes

Course Objectives: Applies an understanding of anatomy, physiology and biochemistry. (1.2)

Applies an understanding of environmental, molecular factors (e.g. genes, proteins, metabolites) and food in the development and management of disease. (1.1)

Applies an understanding of the impact of complementary and integrative nutrition on drugs, disease, health and wellness. (1.9)

Applies current research and evidence-informed practice to services. (6.3)

Applies knowledge of math and statistics. (1.10)

Applies knowledge of medical terminology when communicating with individuals, groups and other health professionals. (1.11)

Applies knowledge of nutritional health promotion and disease prevention for individuals, groups and populations. (1.15)

Applies knowledge of pathophysiology and nutritional biochemistry to physiology, health and disease. (1.5)

Applies knowledge of pharmacology to recommend, prescribe and administer medical nutrition therapy. (1.8)

Implements or coordinates nutritional interventions for individuals, groups or populations. (2.4)

Incorporates critical thinking skills in practice. (6.1)

Integrates nutritional biochemistry knowledge to make informed food and nutrition decisions for optimal health. (1.4.2)

Prescribes, recommends and administers nutrition-related pharmacotherapy. (2.5)

Utilizes the nutrition care process with individuals, groups or populations in a variety of practice settings. (2.3)

Rules & Requirements

Prerequisites: graduate student standing, course reserved for students in the MNSD program

Hours & Format

Fall and/or spring: 10 weeks - 6 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Medical Nutrition Therapy: Read Less [-]

NUSCTX 266 Nutrition in the Community 3 Units

Terms offered: Not yet offered

Course addresses nutrition in the context of the community and population. It explores nutrition programs that serve various segments of the population and the relationships of these programs to nutrition policy at the local, national, and international levels. The course provides an opportunity for community assessment, program planning, implementation, and evaluation. The history, science, current issues and innovations involved in improving nutrition among various communities will be presented. Nutritional concerns, including food security and global health, will be discussed. This course is designed to prepare MNSD students for supervised practice internships and a career as a RDN. Nutrition in the Community: Read More [a+]

Objectives & Outcomes

Course Objectives: Applies a framework to assess, develop, implement and evaluate products, programs and services. (2.1)
Applies knowledge of nutritional health promotion and disease prevention for individuals, groups and populations. (1.15)

Applies knowledge of social, psychological and environmental aspects of eating and foods. (1.6)

Engages in legislative and regulatory activities that address community, population and global nutrition health and nutrition policy. (4.2)

Gains a foundational knowledge on public and global health issues and nutritional needs. (1.16)

Implements or coordinates nutritional interventions for individuals, groups or populations. (2.4)

Utilizes program planning steps to develop, implement, monitor and evaluate community and population programs. (4.1)

Rules & Requirements

Prerequisites: graduate student standing, course reserved for students in the MNSD program

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Nutrition in the Community: Read Less [-]

NUSCTX 290 Advanced Seminars in Nutritional Sciences 2 Units

Terms offered: Fall 2023, Fall 2022, Fall 2021

Advanced study of topics in nutritional sciences. More than one section may be taken simultaneously.

Advanced Seminars in Nutritional Sciences: Read More [a+]

Rules & Requirements

Prerequisites: Graduate standing

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Advanced Seminars in Nutritional Sciences: Read Less [-]

NUSCTX 292 Graduate Research Colloquium 1 Unit

Terms offered: Fall 2023, Spring 2023, Fall 2022

Presentations by graduate students of research proposals and results of their research. Participation in discussion and evaluation of others' presentations is required.

Graduate Research Colloquium: Read More [a+]

Rules & Requirements

Prerequisites: Graduate standing

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of colloquium per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Graduate Research Colloquium: Read Less [-]

NUSCTX 293 Research Seminar 1 Unit

Terms offered: Fall 2023, Fall 2022, Fall 2021

Presentation and discussion of faculty research projects and experimental techniques in metabolic biology/nutritional biochemistry. Intended primarily for first year graduate students.

Research Seminar: Read More [+]

Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Seminar: Read Less [-]

NUSCTX 294 Dietetics Professional Practice 2 Units

Terms offered: Not yet offered

This course is intended to enhance student understanding and appreciation of professional responsibilities and conduct as future dietetic professionals. Current topics in the field of nutritional sciences and dietetics will be discussed. The course will provide a platform for students to begin to prepare for the registered dietitian nutritionist credentialing examination.

Dietetics Professional Practice: Read More [+]

Objectives & Outcomes

Course Objectives: Demonstrates coding and billing procedures to obtain payment for nutrition services under alternate health care payment models. (2.3.27)

Demonstrates leadership skills to guide practice. (5.1)

Develops and leads implementation of risk management strategies and programs. (5.5)

Engages in legislative and regulatory activities that address community, population and global nutrition health and nutrition policy. (4.2)

Uses effective communication, collaboration and advocacy skills. (7.2)

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Dietetics Professional Practice: Read Less [-]

NUSCTX 295 Capstone Project in Nutritional Sciences 11 Units

Terms offered: Not yet offered

The Capstone course gives students the opportunity to synthesize their graduate level course work by connecting their academic knowledge from their coursework to a capstone research project. Students will learn new research techniques and approaches and broaden their exposure to nutrition research. The project will entail a technical research poster and presentation of their work.

Capstone Project in Nutritional Sciences: Read More [+]

Objectives & Outcomes

Course Objectives: Applies an understanding of environmental, molecular factors (e.g. genes, proteins, metabolites) and food in the development and management of disease. (1.1)

Applies current research and evidence-informed practice to services. (6.3)

Applies knowledge of math and statistics. (1.10)

Applies project management principles to achieve project goals and objectives. (5.3)

Applies scientific methods utilizing ethical research practices when reviewing, evaluating, and conducting research. (6.2)

Demonstrates computer skills and uses nutrition informatics in the decision making process (1.13)

Incorporates critical thinking skills in practice. (6.1)

Uses effective communication, collaboration and advocacy skills. (7.2)

Hours & Format

Summer: 10 weeks - 40 hours of laboratory per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Instructor: King

Capstone Project in Nutritional Sciences: Read Less [-]

NUSCTX 296A Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [+]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [-]

NUSCTX 296B Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [\[-\]](#)

NUSCTX 296C Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [\[-\]](#)

NUSCTX 296D Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [\[-\]](#)

NUSCTX 296E Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [\[-\]](#)

NUSCTX 296F Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [\[-\]](#)

NUSCTX 296G Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [\[-\]](#)

NUSCTX 296H Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [\[-\]](#)

NUSCTX 296I Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [\[-\]](#)

NUSCTX 296J Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [a]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [-]

NUSCTX 296K Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2014, Spring 2013, Spring 2012

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [a]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [-]

NUSCTX 296L Research Review in Nutritional Sciences and Toxicology 2 Units

Terms offered: Spring 2023, Spring 2022, Spring 2021

Review of current literature and discussion of original research.

Research Review in Nutritional Sciences and Toxicology: Read More [a]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Research Review in Nutritional Sciences and Toxicology: Read Less [-]

NUSCTX 298 Directed Group Studies 1 - 4 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022

Special study in various fields of metabolic biology. Topics vary

depending on interests of graduate students and availability of staff.

Directed Group Studies: Read More [a]

Rules & Requirements

Prerequisites: Graduate standing and consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of independent study per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Directed Group Studies: Read Less [-]

NUSCTX 299 Nutritional Sciences and Toxicology Research 1 - 12 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022

Nutritional Sciences and Toxicology Research: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Graduate standing and consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer:

6 weeks - 2.5-30 hours of independent study per week

8 weeks - 1.5-22.5 hours of independent study per week

10 weeks - 1.5-18 hours of independent study per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Formerly known as: Nutritional Sciences 299

Nutritional Sciences and Toxicology Research: Read Less [\[-\]](#)

NUSCTX 302 Professional Preparation: Supervised Teaching Experience in Nutrition 1 - 4 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022

Practical supervised experience in teaching nutrition and food science at the university level; planning, presentation, and evaluation of instructional units.

Professional Preparation: Supervised Teaching Experience in Nutrition: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: 301 (may be taken concurrently) and consent of instructor

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of fieldwork per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Professional course for teachers or prospective teachers

Grading: Letter grade.

Instructor: Bjeldanes

Formerly known as: Nutritional Sciences 302

Professional Preparation: Supervised Teaching Experience in Nutrition: Read Less [\[-\]](#)

NUSCTX 375 Professional Preparation: Teaching in Nutritional Sciences 1 - 2 Units

Terms offered: Fall 2023, Fall 2022, Fall 2021

Creative approaches to teaching nutrition to diverse audiences are emphasized. Participants will identify needs of target populations, formulate educational objectives, design and/or use motivational teaching strategies, and evaluate the impact of their teaching on knowledge, attitudes, and behavior. Undergraduates may teach nutrition to elementary school children. Graduates may become teaching assistants. Professional Preparation: Teaching in Nutritional Sciences: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Credit Restrictions: Students will receive no credit for NUSCTX 375 after completing NUTRSCI 301.

Hours & Format

Fall and/or spring: 15 weeks - 1-1 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Professional course for teachers or prospective teachers

Grading: Letter grade.

Formerly known as: Nutritional Sciences and Toxicology 301

Professional Preparation: Teaching in Nutritional Sciences: Read Less [\[-\]](#)

NUSCTX 400 Supervised Practice in Dietetics 2 - 12 Units

Terms offered: Not yet offered

This course will allow students the opportunity to apply their knowledge from their academic courses, build and practice skills, and demonstrate competency as an entry-level registered dietitian nutritionist under the supervision of a qualified professional.

Supervised Practice in Dietetics: [Read More](#) [+]

Objectives & Outcomes

Course Objectives: The objective of the course and its rotations is to demonstrate competency in the Accreditation Council for Education in Nutrition and Dietetics (ACEND) competency performance indicators. Each rotation's specific competencies, and the level of mastery (knows, shows or does) can be found on the program's curriculum map.

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes. Students may enroll in multiple sections of this course within the same semester.

Hours & Format

Fall and/or spring: 15 weeks - 3-18 hours of internship per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Other professional

Grading: Offered for satisfactory/unsatisfactory grade only.

Supervised Practice in Dietetics: [Read Less](#) [-]

NUSCTX 602 Individual Study for Doctoral Students 1 - 8 Units

Terms offered: Fall 2023, Fall 2022, Fall 2021

Individual study in consultation with the major field adviser intended to provide an opportunity for qualified students to prepare themselves for the various examinations required for candidates for the Ph.D.

Individual Study for Doctoral Students: [Read More](#) [+]

Rules & Requirements

Prerequisites: Graduate standing and consent of instructor

Credit Restrictions: Course does not satisfy unit or residence requirements for doctoral degree.

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 0-0 hours of independent study per week

Summer:

6 weeks - 1-5 hours of independent study per week

8 weeks - 1-4 hours of independent study per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

Individual Study for Doctoral Students: [Read Less](#) [-]