

# 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 affects 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 Science (<http://guide.berkeley.edu/archive/2017-18/undergraduate/degree-programs/nutritional-science>)s (<http://guide.berkeley.edu/archive/2017-18/undergraduate/degree-programs/nutritional-science>): BS (with specializations in Physiology and Metabolism, Dietetics, and Toxicology), Minor  
Toxicology (<http://guide.berkeley.edu/archive/2017-18/undergraduate/degree-programs/toxicology>): Minor

## Graduate Program

The department does not offer graduate degrees; however, the following related graduate degrees are administered by graduate groups affiliated with the department:

Metabolic Biology (<http://guide.berkeley.edu/archive/2017-18/graduate/degree-programs/metabolic-biology>): MS, PhD

Molecular Toxicology (<http://guide.berkeley.edu/archive/2017-18/graduate/degree-programs/molecular-toxicology>): PhD

## Nutritional Sciences and Toxicology

### NUSCTX 10 Introduction to Human Nutrition 3 Units

Terms offered: Fall 2018, Summer 2018 First 6 Week Session, Summer 2018 Second 6 Week Session

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 10 after taking 103 or 160.

#### 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 11 Introduction to Toxicology 3 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

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 2018, Spring 2018, Fall 2017

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 2018, Spring 2018, Fall 2017

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. 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 required.

**Instructor:** Chang

**Formerly known as:** Nutritional Sciences 24

Freshman Seminar: Read Less [-]

## NUSCTX 30 Sports Nutrition 3 Units

Terms offered: Summer 2018 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:** Nutritional Sciences and Toxicology 10 Introduction to Human Nutrition, or consent of instructor

### Hours & Format

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

**Summer:** 6 weeks - 9 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: Fall 2016, Spring 2016, Fall 2015

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 3 Units

Terms offered: Fall 2018, Fall 2017, Fall 2016

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, Olzmann

Nutrient Function and Metabolism: Read Less [-]

## NUSCTX 104 Food, Culture, and the Environment 2 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

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

**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 2018 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 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 108A Introduction and Application of Food Science 3 Units

Terms offered: Fall 2018, Fall 2017, Fall 2016

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 2018, Fall 2017, Fall 2016

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 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:** Rasmussen

Application of Food Science Laboratory: Read Less [-]

## NUSCTX 110 Toxicology 4 Units

Terms offered: Fall 2018, Fall 2017, Fall 2016

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 2018, Spring 2017, Spring 2016

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 121 Computational Toxicology 3 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 C159 Human Diet 4 Units

Terms offered: Spring 2016, Spring 2015, Spring 2013

Since we eat every day, wouldn't it be useful to learn more about human dietary practices? A broad overview of the complex interrelationship between humans and their foods. Topics include the human dietary niche, biological variation related to diet, diet and disease, domestication of staple crops, food processing techniques and development of regional cuisines, modern diets and their problems, food taboos, human attitudes toward foods, and dietary politics.

Human Diet: Read More [\[+\]](#)

### 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:** Milton

**Also listed as:** ESPM C159

Human Diet: Read Less [\[-\]](#)

## NUSCTX 160 Metabolic Bases of Human Health and Diseases 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

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 2018, Fall 2017, Fall 2015

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:** McCoin

Medical Nutrition Therapy: Read Less [\[-\]](#)



## NUSCTX 161B Medical Nutrition Therapy II 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

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 2018, Fall 2017, Fall 2016

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: Spring 2018, Spring 2017, Spring 2016

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 2018, Fall 2017, Fall 2016

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 2018, Spring 2018, Fall 2017

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 2018, Fall 2017, Fall 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 [a+]

### 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](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 - 3 Units

Terms offered: Fall 2016, Spring 2008, Spring 2007

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 [a+]

### Rules & Requirements

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

### Hours & Format

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

### Summer:

6 weeks - 1-5 hours of fieldwork per week

8 weeks - 1-4 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 2016, Spring 2016, Fall 2015

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

Directed Group Study: 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 - 1-3 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 2017, Fall 2016, Spring 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 [a+]

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

Terms offered: Fall 2018, Fall 2017, Fall 2016

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 2018, Spring 2017, Spring 2016

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 250 Advanced Topics in Metabolic Biology 3 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 290 Advanced Seminars in Nutritional Sciences 2 Units**

Terms offered: Fall 2018, Fall 2017, Fall 2016

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

Advanced Seminars in Nutritional Sciences: Read More [\[+\]](#)

### **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 2018, Spring 2018, Fall 2017

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 [\[+\]](#)

### **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 2018, Fall 2017, Fall 2016

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

Terms offered: Fall 2018, Spring 2018, Fall 2017

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2017, Spring 2016

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 2018, Spring 2018, Fall 2017

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 2018, Summer 2018 8 Week Session, Summer 2018 Second 6 Week Session

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 301 Professional Preparation: Teaching in Nutritional Sciences 1 - 2 Units**

Terms offered: Fall 2018, Fall 2017, Fall 2016

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

### **Hours & Format**

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

### **Additional Details**

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

**Grading:** Letter grade.

**Instructors:** Bjeldanes, Ikeda

**Formerly known as:** Nutritional Sciences 301

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

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

Terms offered: Fall 2018, Spring 2018, Fall 2017

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 602 Individual Study for Doctoral Students 1 - 8 Units**

Terms offered: Fall 2018, Fall 2017, Fall 2016

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 [\[-\]](#)