Nutritional Science and Toxicology

Overview

The research and curriculum of the Department of Nutritional Sciences and Toxicology addresses the experimental biology of nutrients, phytochemicals, and diet-borne toxicants, using the techniques of modern biology and chemical analyses to understand the relationship among diet, the metabolic genome, and optimal health/chronic disease. Our goals are to determine the molecular mechanisms of dietary 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/2014-15/undergraduate/degree-programs/nutritional-science) : BS (with emphases in Physiology and Metabolism, Dietetics, and Molecular Toxicology)
Nutritional Science (http://guide.berkeley.edu/archive/2014-15/undergraduate/degree-programs/nutritional-science) : Minor
Toxicology (http://guide.berkeley.edu/archive/2014-15/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/2014-15/graduate/degree-programs/metabolic-biology) : PhD
Molecular Toxicology (http://guide.berkeley.edu/archive/2014-15/graduate/degree-programs/molecular-toxicology) : PhD

Nutritional Science and Toxicology

NUSCTX 10 Introduction to Human Nutrition 3 Units
This course provides an overview of digestion and metabolism of nutrients. Foods are discussed as a source of nutrients, and the evidence is reviewed as to the effects of nutrition on health. The emphasis of the course is on issues of current interest and on worldwide problems of food and nutrition. Students are required to record their own diet, calculate its composition, and evaluate its nutrient content in light of their particular needs.
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.

Formerly known as: Nutritional Sciences 10

NUSCTX 11 Introduction to Toxicology 3 Units
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.
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

NUSCTX 24 Freshman Seminar 1 Unit
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.
Rules & Requirements

Repeat rules: Course may be repeated for credit as topic varies. 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

NUSCTX 98 Directed Group Study 1 - 3 Units
Study of special topics in nutritional sciences that are not covered in depth in regular courses.
Rules & Requirements

Prerequisites: Lower division standing and consent of instructor

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

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

NUSCTX 103 Nutrient Function and Metabolism 3 Units
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.
Rules & Requirements

Prerequisites: 10, Molecular and Cell Biology 32, and 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.

Instructors: Sul, Chen

NUSCTX 104 Human Food Practices 2 Units
Historical, geo-ecological, biological, cultural, socio-economic, political and personal determinants of human diets. Community food and nutrition problems and programs. Food safety and consumer protection. Contributes to the pursuit of multidisciplinary degrees in nutrition policy and planning.
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.

NUSCTX 108A Introduction and Application of Food Science 3 Units
Evaluation of the chemical, physical, functional, and nutritional properities of foods. Emphasis on how these properties, and prepration, processing, and storage, influence quality characteristics of food products.
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

NUSCTX 108B Application of Food Science Laboratory 1 Unit
Experimental evaluation of the chemical, physical, functional, and nutritional properties of foods, and the changes occuring during preparation that affect quality characteristics of food products.
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

NUSCTX 110 Toxicology 4 Units
A comprehensive survey of the principles of modern toxicology and their applications in evaluating the safety of foods, additives and environmental contaminates. Mechanisms of metabolic activation, detoxification, gene regulation, and selective toxicity are emphasized.
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 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

NUSCTX C114 Pesticide Chemistry and Toxicology 3 Units
Chemical composition of pesticides and related compounds, their mode of action, resistance mechanisms, and methods of evaluating their safety and activity.
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 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

NUSCTX 115 Principles of Drug Action 2 Units
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.
Rules & Requirements

Prerequisites: 110, 120 (may be taken concurrently), 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

NUSCTX 121 Computational Toxicology 3 Units
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.
Rules & Requirements

Prerequisites: 110, 120 (may be taken concurrently)

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: Johnson

Formerly known as: Nutritional Sciences 121

NUSCTX 135 Food Systems Organization and Management 4 Units
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.
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

NUSCTX 145 Nutrition Education and Counseling 2 Units
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.
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

NUSCTX C159 Human Diet 4 Units
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.
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

NUSCTX 160 Metabolic Bases of Human Health and Diseases 4 Units
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.
Rules & Requirements

Prerequisites: 103, or Molecular and Cell Biology 102 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/ Undergraduate

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

Instructors: Stahl, Napoli

NUSCTX 161A Medical Nutrition Therapy 4 Units
This lecture course addresses nutrition as a component of disease treatment. As we explore medical nutrition therapy, we will also study disease pathophysiology, diagnosis, and medical and pharmacological treatments. Methods of nutrition assessment and nutrient delivery in a medical setting will be covered.
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

NUSCTX 161B Medical Nutrition Therapy II 4 Units
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.
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.

NUSCTX 166 Nutrition in the Community 3 Units
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.
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

NUSCTX 170 Experimental Nutrition Laboratory 4 Units
Basic principles and techniques used in human and animal nutrition research. Students design, execute, and analyze experiments.
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

NUSCTX 171 Nutrition and Toxicology Laboratory 4 Units
Basic principles and techniques used in human and animal nutrition and toxicology research. Students design, execute, and analyze experiments.
Rules & Requirements

Prerequisites: Nutritional Sciences and Toxicology 110, Molecular and Cell Biology 104 or 142 (may be taken concurrently) or Integrative Biology 141

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

NUSCTX 190 Introduction to Research in Nutritional Sciences 1 Unit
Students will be asked to prepare an oral and written report on a topic selected from the current research literature in nutritional sciences.
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

NUSCTX 192 Junior Seminar in Dietetics 1 Unit
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.
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.

NUSCTX 193 Introduction to Research in Toxicology 1 Unit
Students will be asked to prepare an oral and written report on a topic selected from the current research literature in toxicology.
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

NUSCTX 194 Senior Seminar in Dietetics 2 Units
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.
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.

NUSCTX H196 Honors Research 4 Units
Supervised independent honors research specific to aspects of the Nutritional Science and Toxicology major, followed by an oral presentation, and a written report.
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. Course may be repeated for credit when topic changes.

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

NUSCTX 197 Field Study in Food and Nutritional Sciences 1 - 3 Units
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.
Rules & Requirements

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

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

NUSCTX 198 Directed Group Study 1 - 3 Units
Study of special topics in food science or nutrition that are not covered in depth in regular courses.
Rules & Requirements

Prerequisites: Consent of instructor

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

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

NUSCTX 199 Supervised Independent Study and Research 1 - 4 Units
Upper division laboratory and independent research under the direction of a faculty supervisor. Written report required upon completion of the project.
Rules & Requirements

Prerequisites: Upper division standing and consent of instructor

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

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

NUSCTX 200 Advanced Organismal Nutrition and Metabolism 3 Units
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.
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

NUSCTX 211A Introduction to Research in Nutritional Sciences 4 - 8 Units
Closely supervised experimental work under the direction of individual faculty members; an introduction to experimental methods and research approaches in areas of nutritional sciences.
Rules & Requirements

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

Hours & Format

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

Formerly known as: Nutritional Sciences 211A-211B

NUSCTX 211B Introduction to Research in Nutritional Sciences 4 - 8 Units
Closely supervised experimental work under the direction of individual faculty members; an introduction to experimental methods and research approaches in areas of nutritional sciences.
Rules & Requirements

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

Hours & Format

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

Formerly known as: Nutritional Sciences and Toxicology 211B

NUSCTX C219 Advanced Toxicology 3 or 4 Units
The application of toxicology to answer questions about safety and risk. Using a case-study approach, participants will learn how to interpret toxicological data and apply their knowledge to evaluating the risk presented by exposures to toxic chemicals, including drugs and environmental contaminants. Discussion of current topics of controversy in the field of toxicology.
Hours & Format

Fall and/or spring: 15 weeks - 3-4 hours of lecture per week

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Instructor: Smith

Also listed as: PB HLTH C270B

NUSCTX 220 Molecular Toxicology 4 Units
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.
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

NUSCTX 250 Advanced Topics in Metabolic Biology 3 Units
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.
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

NUSCTX 290 Advanced Seminars in Nutritional Sciences 1 - 2 Units
Advanced study of topics in nutritional sciences. More than one section may be taken simultaneously.
Rules & Requirements

Prerequisites: Graduate standing

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

Hours & Format

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

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Formerly known as: Nutritional Sciences 290

NUSCTX 292 Graduate Research Colloquium 1 Unit
Presentations by graduate students of research proposals and results of their research. Participation in discussion and evaluation of others' presentations is required.
Rules & Requirements

Prerequisites: Graduate standing

Repeat rules: Course may be repeated for credit. 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/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Formerly known as: Nutritional Sciences 292

NUSCTX 293 Research Seminar 1 Unit
Presentation and discussion of current faculty research projects and experimental techniques in nutritional sciences. Intended primarily for first year graduate students.
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.

Formerly known as: Nutritional Sciences 293

NUSCTX 296A Research Review in Nutritional Sciences and Toxicology
2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296B Research Review in Nutritional Sciences and Toxicology
2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296C Research Review in Nutritional Sciences and Toxicology
2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296D Research Review in Nutritional Sciences and Toxicology
2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296E Research Review in Nutritional Sciences and Toxicology
2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296F Research Review in Nutritional Sciences and Toxicology
2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296G Research Review in Nutritional Sciences and Toxicology 2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296H Research Review in Nutritional Sciences and Toxicology 2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296I Research Review in Nutritional Sciences and Toxicology 2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296J Research Review in Nutritional Sciences and Toxicology 2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296K Research Review in Nutritional Sciences and Toxicology 2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 296L Research Review in Nutritional Sciences and Toxicology 2 Units
Review of current literature and discussion of original research.
Rules & Requirements

Prerequisites: Consent of instructor

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

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.

NUSCTX 298 Directed Group Studies 1 - 4 Units
Special study in various fields of nutritional sciences. Topics will vary depending on interests of qualified graduate students and availability of staff.
Rules & Requirements

Prerequisites: Graduate standing and consent of instructor

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

Hours & Format

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

Additional Details

Subject/Course Level: Nutritional Sciences and Toxicology/Graduate

Grading: Letter grade.

Formerly known as: Nutritional Sciences 298

NUSCTX 299 Nutritional Sciences and Toxicology Research 1 - 12 Units
Rules & Requirements

Prerequisites: Graduate standing and consent of instructor

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

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

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

NUSCTX 302 Professional Preparation: Supervised Teaching Experience in Nutrition 1 - 4 Units
Practical supervised experience in teaching nutrition and food science at the university level; planning, presentation, and evaluation of instructional units.
Rules & Requirements

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

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

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

NUSCTX 602 Individual Study for Doctoral Students 1 - 8 Units
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.
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. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 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.

Formerly known as: Nutritional Sciences and Toxicology 602