NUTRITION SCIENCE, BACHELOR OF SCIENCE

College of Agricultural & Environmental Sciences

The study of nutrition encompasses all aspects of the consumption and utilization of food and its constituents. Key areas of study include: the biochemical reactions important to the utilization of nutrients and food constituents; the impact of diet on health and disease; and, nutrition-related policy and public health issues. The nutrition science major includes two options for studying these areas: nutritional biology and nutrition in public health.

The Program

Nutrition, as it is taught on the Davis campus, is a biological science and requires a complete background in chemistry and biology, along with calculus and physics (nutritional biology option) or economics (nutrition in public health option). These courses are generally completed during the first two years, and along with biochemistry, must be completed before most nutrition classes can be taken. During their junior and senior years, students in the nutritional biology option take additional course work in biochemistry, physiology, and toxicology. Students in the nutrition in public health option take additional course work in social and health-related sciences.

Career Alternatives

Both options are excellent preparation for professional or graduate training in medicine, public health, or other health sciences. The nutritional biology option also provides preparation for technical work in nutrition in the animal, food, and pharmaceutical industries. The nutrition in public health option prepares students for jobs in administrative, teaching, or public health/public service positions.

Becoming a Registered Dietitian

The Commission on Dietetic Registration (CDR) requires a minimum of a master's degree to be eligible to take the credentialing exam to become a registered dietitian[1]. There are two routes for the Nutrition Science major:

- A Coordinated Graduate Program in Nutrition & Dietetics.
- A Future Graduate Program in Nutrition & Dietetics.

These master's degree programs include the didactic coursework and supervised practice (dietetic internship).

Lead Faculty Advisor

Peng Ji, Ph.D.

Advising Center for the major is located in 3202 Meyer Hall; 530-752-2512; 530-752-7094.

Graduate Study

The Department of Nutrition offers programs of study and research leading to M.S. and Ph.D. degrees in Nutrition. For information on graduate study contact the graduate advisor. See Graduate Studies (http://gradstudies.ucdavis.edu/).

1

Effective Jan 1, 2024.

The major requirements below are in addition to meeting University Degree Requirements (https://catalog.ucdavis.edu/undergraduate-education/university-degree-requirements/) & College Degree Requirements (https://catalog.ucdavis.edu/undergraduate-education/college-degree-requirements/); unless otherwise noted. The minimum number of units required for the Nutrition Science Bachelor of Science is 138.

Code	Title	Units
Preparatory Subject Matter		
Biological Science		
BIS 002A	Introduction to Biology: Essentials of Life on Earth	5
BIS 002B	Introduction to Biology: Principles of Ecology & Evolution	5
BIS 002C	Introduction to Biology: Biodiversity & the Tree of Life	5
Chemistry		
CHE 002A	General Chemistry	5
CHE 002B	General Chemistry	5
CHE 002C	General Chemistry	5
Choose a series:		6-8
CHE 008A & CHE 008B	Organic Chemistry: Brief Course and Organic Chemistry: Brief Course	
OR		
CHE 118A & CHE 118B	Organic Chemistry for Health & Life Sciences and Organic Chemistry for Health & Life Sciences	
OR		
CHE 128A & CHE 128B & CHE 129A	Organic Chemistry and Organic Chemistry and Organic Chemistry Laboratory	
Nutrition		
NUT 010	Discoveries & Concepts in Nutrition	3
or NUT 010V	Discoveries & Concepts in Nutrition	
or NUT 010Y	Discoveries & Concepts in Nutrition	
Statistics		
Choose one:		4
PLS 120	Applied Statistics in Agricultural Sciences	
STA 013	Elementary Statistics	
or STA 013Y	Elementary Statistics	
STA 100	Applied Statistics for Biological Sciences	
Research Methods		
PSC 041	Research Methods in Psychology	4
or PSC 041V	Research Methods in Psychology	
or SOC 046	Introduction to Social Research Methods	
The remaining preparatory subject matter is based on which major option you choose:		15-21
Nutritional Biology Option (p. 2)		
Nutrition in Public Health Option (p. 2)		
Preparatory Subject Matter Subtotal		62-70
Depth Subject Matter		
Biochemistry		
Choose a series:		6-10

ABI 102 & ABI 103	Animal Biochemistry & Metabolism and Animal Biochemistry & Metabolism	
OR		
BIS 102 & BIS 103	Structure & Function of Biomolecules and Bioenergetics & Metabolism	
Biological Science		
BIS 101	Genes & Gene Expression	4
or BIS 101V	Genes & Gene Expression	
Food Science & Technology		
FST 100A	Food Chemistry	4
FST 100B	Food Properties	4
Microbiology		
MIC 102	Introductory Microbiology	3
MIC 103L	Introductory Microbiology Laboratory	2
Neurobiology, Physiology, & Behavior		
NPB 101	Systemic Physiology	5
NPB 101L	Systemic Physiology Laboratory	3
Nutrition		
NUT 111AY	Introduction to Nutrition & Metabolism	3
NUT 111B	Recommendations & Standards for Human Nutrition	2
NUT 112	Nutritional Assessment	4
NUT 116A	Clinical Nutrition	3
The remaining depth subject matter is based on which major option you chose when completing your preparatory courses:		33
Nutritional Biology Option (p. 3)		
Nutrition in Public Health Option (p. 3)		
Depth Subject Matter Subtotal		76-80
Total Units		**138-150**

Focus Area	Units
Nutritional Biology Option	139-150
Nutrition in Public Health Option	138-147

Preparatory Subject Matter

Nutritional Biology Option

Code	Title	Units
Choose one:		4-5
ANT 002	Cultural Anthropology	
PSC 001	General Psychology	
or PSC 001V	General Psychology	
or PSC 001Y	General Psychology	
SOC 001	Introduction to Sociology	
or SOC 001V	Introduction to Sociology	
SOC 003	Social Problems	
Choose a series:		6-8
MAT 016A	(Discontinued)	
or MAT 016B	DISCONTINUED	
OR		
MAT 017A & MAT 017B	Calculus for Biology & Medicine and Calculus for Biology & Medicine	
Choose a series:		6-8
PHY 001A & PHY 001B	Principles of Physics and Principles of Physics	
OR		
PHY 007A & PHY 007B	General Physics and General Physics	
Total Units		**16-21**

Nutrition in Public Health Option

Code	Title	Units
Choose one:		4-5
ANT 002	Cultural Anthropology	
SOC 001	Introduction to Sociology	
or SOC 001V	Introduction to Sociology	
SOC 003	Social Problems	
ECN 001A	Principles of Microeconomics	4
or ECN 001AV	Principles of Microeconomics	
or ECN 001AY	Principles of Microeconomics	
PSC 001	General Psychology	4
or PSC 001V	General Psychology	
or PSC 001Y	General Psychology	
Choose 3-5 units from:		3-5
AMS/FST 055	Food in American Culture	
CHI 010	Introduction to Chicana/o Studies	
CHI 021	Chicana/o & Latina/o Health Care Issues	
CHI 040	Comparative Health: Top Leading Causes of Death	
CHI 042	Food Justice: Chicana/o & Indigenous Communities	
CRD 020	Food Systems	
ECN 001B	Principles of Macroeconomics	
or ECN 001BV	Principles of Macroeconomics	
ETX 010	Introduction to Environmental Toxicology	
FST 010	Food Science, Folklore & Health	
GSW 050	Introduction to Critical Gender Studies	
HDE 012	Human Sexuality	
IAD 010	Introduction to International Agricultural Development	
MIC 010	Natural History of Infectious Diseases	
NAS 001	Introduction to Native American Studies	
NUT 011	Current Topics & Controversies in Nutrition	
NUT 099	Individual Study for Undergraduates	
PHI 015	Introduction to Bioethics	
POL 001	American National Government	
or POL 001Y	American National Government	
POL 003	International Relations	
POL 005	Contemporary Problems of the American Political System	
SAS 002	Feeding the World: Influences on the Global Food Supply	
or SAS 002V	Feeding the World: Influences on the Global Food Supply	
SAS 090F	Food Distribution in a Hungry World	
Total Units		**15-18**

Depth Subject Matter

Nutritional Biology Option

Code	Title	Units
Requirements		
NPB 114	Gastrointestinal Physiology	3
NUT/ETX 104	Environmental & Nutritional Factors in Cellular Regulation & Nutritional Toxicants	4
NUT 117	Experimental Nutrition	6
Restricted Electives		**20**
Choose at least 9 units from Nutrition:		
NUT 105	Nutrition through the Life Cycle	
NUT 113	Principles of Epidemiology in Nutrition	
NUT 114	Developmental Nutrition	
NUT 115	Animal Nutrition	
NUT 116B	Clinical Nutrition	
or NUT 116BY	Clinical Nutrition	
NUT 118	Community Nutrition	
NUT 119A	Global Nutrition	
NUT 120AN	Nutritional Anthropology	
NUT/ETX 127	Environmental Stress & Development in Marine Organisms	
NUT 129	Journalistic Practicum in Nutrition	
NUT 130	Experiments in Nutrition: Design & Execution	
NUT 141	Comparative Animal Nutrition & Metabolism	
NUT 190	Proseminar in Nutrition	
NUT 192	Internship	
NUT 199	Special Study for Advanced Undergraduates	
The remaining balance of restricted elective units may be chosen from any of the following courses:		
BIM 152	Molecular Control of Biosystems	
BIS 104	Cell Biology	
CHA 101/EXB 106	Human Gross Anatomy	
CHA 101L/ EXB 106L	Human Gross Anatomy Laboratory	
CHE 130A	Principles of Medicinal Chemistry	
CHE 130B	Computational Drug Design	
ENT 156	Biology of Parasitism	
ENT 156L	Biology of Parasitism Laboratory	
ETX/FST 128	Food Toxicology	
ETX 140	Genes & the Environment	
EXB 110	Exercise Metabolism	
EXB 116	Nutrition for Physically Active Persons	
FST 104	Food Microbiology	
GDB 103	Microbiome of People, Animals, & Plants	
HDE 100A	Infancy & Early Childhood	
or HDE 100AV	Infancy & Early Childhood	
HDE 100B	Middle Childhood & Adolescence	
HDE 100C	Adulthood & Aging	
MCB 120	Molecular Biology & Biochemistry Laboratory Associated Lecture	
MCB 120L	Molecular Biology & Biochemistry Laboratory	
MCB 162	Human Genetics & Genomics (Discontinued)	
MMG 111	Human Microbiology	
or MIC 111 DISCONTINUED		
MMG 162	General Virology	
or MIC 162 DISC		
MMI 130	Medical Mycology	
MMI 188A	Human Immunology	
MMI 188B	Human Immunology	
NPB 110A	Foundations 1: From Molecules to Individuals	
NPB 116	Stress Physiology in Health & Disease	
NPB 128	Comparative Physiology: Endrocrinology	
NPB 132	Nature vs. Nurture: Physiological Interactions Among Genes, Nutrients & Health	
NPB 134	General Immunology for Physiologists	
PLB/PLP 148	Introductory Mycology	
PMI 126	Fundamentals of Immunology	
PMI 127	Medical Bacteria & Fungi	
PMI 129Y	One Health: Human, Animal & Environment Interfaces	
UWP 102B	Writing in the Disciplines: Biology	
UWP 104F	Writing in the Professions: Health	
or UWP 104FV	Writing in the Professions: Health	
or UWP 104FY	Writing in the Professions: Health	
Total Units		**33**

Nutrition in Public Health Option

Code	Title	Units
Requirements		
NUT 113	Principles of Epidemiology in Nutrition	4
NUT 118	Community Nutrition	4
SPH 101	Introduction to Public Health	3
Restricted Electives		**22**
Choose at least 9 units from Nutrition:		
NUT/ETX 104	Environmental & Nutritional Factors in Cellular Regulation & Nutritional Toxicants	
NUT 105	Nutrition through the Life Cycle	
NUT 114	Developmental Nutrition	
NUT 116B	Clinical Nutrition	
or NUT 116BY	Clinical Nutrition	
NUT 117	Experimental Nutrition	
NUT 119A	Global Nutrition	
NUT 120AN	Nutritional Anthropology	
NUT 129	Journalistic Practicum in Nutrition	
NUT 130	Experiments in Nutrition: Design & Execution	
NUT 190	Proseminar in Nutrition	
NUT 192	Internship	
NUT 199	Special Study for Advanced Undergraduates	

The remaining balance of restricted elective units may be chosen from any of the following courses:

Community Health & Education	
CMN 165	Media & Health
EDU 110	Educational Psychology: General
EDU 120	Philosophical & Social Foundations of Education
HDE 135	Health Behaviors Across the Lifespan
PLS 193	Garden & Farm-Based Experiential Education Methods
PSC 126	Health Psychology
PSC 130	Human Learning & Memory
Cultural Diversity & Community Change	
AAS 100	Survey of Ethnicity in the US
ARE 112	Fundamentals of Organization Management
CMN 136	Organizational Communication
or CMN 136V	Organizational Communication
CRD 152	Community Development
CRD 176	Comparative Ethnicity
IAD 103	Social Change & Agricultural Development
SAS 130	Contemporary Leadership
Health Policy	
ARE 120	Agricultural Policy
POL 109	Public Policy & the Governmental Process
Human & Applied Sciences	
CHA 101/EXB 106	Human Gross Anatomy
CHA 101L/ EXB 106L	Human Gross Anatomy Laboratory
CHI 140A	Quantitative Methods: Chicano/Latino Health Research
EXB 101	Exercise Physiology
EXB 102	Introduction to Motor Learning & the Psychology of Sport & Exercise
EXB 110	Exercise Metabolism
EXB 117	Exercise & Aging in Health & Disease
HDE 100A	Infancy & Early Childhood
or HDE 100AV	Infancy & Early Childhood
HDE 100B	Middle Childhood & Adolescence
HDE 100C	Adulthood & Aging
Physiology & Applied Sciences	
ETX 101	Principles of Environmental Toxicology
FST/ETX 128	Food Toxicology
NPB 132	Nature vs. Nurture: Physiological Interactions Among Genes, Nutrients & Health
Public Health Sciences	
SPH 103	Introduction to Health Economics, Services, Policy, Administration & Management
SPH 104	Globalization & Health: Evidence & Policies
SPH 106	Intermediate Human Epidemiology
SPH 108	Introduction to Program Planning & Evaluation
SPH 109	History of Epidemiology in Public Health
SPH 113	Health Disparities in the U.S.
SPH 120	Introduction to Health Informatics
Total Units	**33**