

# 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.

## Dietetics Internship

To fulfill the academic requirements for an internship in Dietetics, students are strongly advised to declare the Clinical Nutrition major. Within the Nutrition in Public Health option, students should also take: ENL 003 or UWP 001 & CMN 001. The following courses must also be added (some of which may meet restricted elective requirements): ARE 112; NUT 116B, NUT 116AL-NUT 116BL; FSM 120, FSM 120L, FSM 122. Students intending to apply for admission to a dietetic internship should contact the Advising Center no later than the first quarter of the junior year for information on procedures. Effective January 1, 2024, the Commission on Dietetic Registration (CDR) will require a minimum of a master's degree to be eligible to take the credentialing exam to become a registered dietitian.

## Major Advisor

Gerardo Mackenzie

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/>).

Code	Title	Units
<b>Preparatory Subject Matter</b>		
<i>Biological Science</i>		
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
<i>Chemistry</i>		
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	
<b>OR</b>		
CHE 118A & CHE 118B	Organic Chemistry for Health & Life Sciences and Organic Chemistry for Health & Life Sciences	
<b>OR</b>		
CHE 128A & CHE 128B & CHE 129A	Organic Chemistry and Organic Chemistry and Organic Chemistry Laboratory	
<i>Nutrition</i>		
NUT 010 or NUT 010V or NUT 010Y	Discoveries & Concepts in Nutrition	3
<i>Statistics</i>		
Choose one:		4
PLS 120	Applied Statistics in Agricultural Sciences	
STA 013 or STA 013Y	Elementary Statistics	
STA 100	Applied Statistics for Biological Sciences	
<i>Research Methods</i>		
PSC 041 or SOC 046	Research Methods in Psychology	4
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
<b>Depth Subject Matter</b>		
<i>Biochemistry</i>		
Choose a series:		6-10
ABI 102 & ABI 103	Animal Biochemistry & Metabolism and Animal Biochemistry & Metabolism	
<b>OR</b>		
BIS 102 & BIS 103	Structure & Function of Biomolecules and Bioenergetics & Metabolism	
<i>Biological Science</i>		
BIS 101	Genes & Gene Expression	4
<i>Food Science &amp; Technology</i>		

FST 100A	Food Chemistry	4
FST 100B	Food Properties	4
<i>Microbiology</i>		
MIC 102	Introductory Microbiology	3
MIC 103L	Introductory Microbiology Laboratory	2
<i>Neurobiology, Physiology, &amp; Behavior</i>		
NPB 101	Systemic Physiology	5
NPB 101L	Systemic Physiology Laboratory	3
<i>Nutrition</i>		
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. 2)		
Nutrition in Public Health Option (p. 3)		
Depth Subject Matter Subtotal		76-80
<b>Total Units</b>		<b>138-150</b>

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 001Y	General Psychology		
SOC 001	Introduction to Sociology		
SOC 003	Social Problems		
Choose a series:			6-8
MAT 016A	Short Calculus		
& MAT 016B	and Short Calculus		
<b>OR</b>			
MAT 017A	Calculus for Biology & Medicine		
& MAT 017B	and Calculus for Biology & Medicine		
Choose a series:			6-8
PHY 001A	Principles of Physics		
& PHY 001B	and Principles of Physics		
<b>OR</b>			
PHY 007A	General Physics		
& PHY 007B	and General Physics		
<b>Total Units</b>		<b>16-21</b>	

### Nutrition in Public Health Option

Code	Title	Units	
Choose one:			4-5
ANT 002	Cultural Anthropology		
SOC 001	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 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	
<b>Total Units</b>		<b>15-18</b>

## Depth Subject Matter

### Nutritional Biology Option

Code	Title	Units	
<b>Requirements</b>			
NPB 114	Gastrointestinal Physiology	3	
NUT/ETX 104	Environmental & Nutritional Factors in Cellular Regulation & Nutritional Toxicants	4	
NUT 117	Experimental Nutrition	6	
<b>Restricted Electives</b>			<b>20</b>
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
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 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
MIC 111	Human Microbiology
MIC 162	General Virology
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: Endocrinology
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 or UWP 104FV or UWP 104FY	Writing in the Professions: Health

**Total Units** 33

### Nutrition in Public Health Option

Code	Title	Units
<b>Requirements</b>		
NUT 113	Principles of Epidemiology in Nutrition	4
NUT 118	Community Nutrition	4
SPH 101	Introduction to Public Health	3
<b>Restricted Electives</b>		<b>22</b>

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
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:

<i>Community Health &amp; Education</i>	
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
<i>Cultural Diversity &amp; Community Change</i>	
AAS 100	Survey of Ethnicity in the US
ARE 112	Fundamentals of Organization Management
CMN 136	Organizational Communication
CRD 152	Community Development

CRD 176	Comparative Ethnicity
IAD 103	Social Change & Agricultural Development
SAS 130	Contemporary Leadership
<i>Health Policy</i>	
ARE 120	Agricultural Policy
POL 109	Public Policy & the Governmental Process
<i>Human &amp; Applied Sciences</i>	
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 or HDE 100AV	Infancy & Early Childhood Infancy & Early Childhood
HDE 100B	Middle Childhood & Adolescence
HDE 100C	Adulthood & Aging
<i>Physiology &amp; Applied Sciences</i>	
ETX 101	Principles of Environmental Toxicology
FST/ETX 128	Food Toxicology
NPB 132	Nature vs. Nurture: Physiological Interactions Among Genes, Nutrients & Health
<i>Public Health Sciences</i>	
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
<b>Total Units</b>	<b>33</b>