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 complete background in chemistry and biology, along with a complete background in 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.

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 the M.S. and Ph.D. degrees in Nutrition. For information on graduate study contact the graduate advisor. See Graduate Studies (http://gradstudies.ucdavis.edu/).

Nutrition Science, Bachelor of Science
Nutrition Science, Bachelor of Science

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
NBP 101  Systemic Physiology  5
NBP 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:
- Nutritional Biology Option (p. 2)
- Nutrition in Public Health Option (p. 3)

Depth Subject Matter Subtotal  76-80
Total Units  138-150

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

Preparatory Subject Matter
Nutritional Biology Option

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>Choose one:</td>
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</tr>
<tr>
<td>ANT 002</td>
<td>Cultural Anthropology</td>
</tr>
<tr>
<td>PSC 001</td>
<td>General Psychology</td>
</tr>
<tr>
<td>or PSC 001Y</td>
<td>General Psychology</td>
</tr>
<tr>
<td>SOC 001</td>
<td>Introduction to Sociology</td>
</tr>
<tr>
<td>SOC 003</td>
<td>Social Problems</td>
</tr>
<tr>
<td>Choose a series:</td>
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<tr>
<td>MAT 016A</td>
<td>Short Calculus</td>
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<tr>
<td>&amp; MAT 016B</td>
<td>and Short Calculus</td>
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<tr>
<td>OR</td>
<td></td>
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<tr>
<td>MAT 017A</td>
<td>Calculus for Biology &amp; Medicine</td>
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<tr>
<td>&amp; MAT 017B</td>
<td>and Calculus for Biology &amp; Medicine</td>
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Choose a series: 6-8

<table>
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<tr>
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<tr>
<td>PHY 001A</td>
<td>Principles of Physics</td>
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<tr>
<td>&amp; PHY 001B</td>
<td>and Principles of Physics</td>
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<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>PHY 007A</td>
<td>General Physics</td>
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<tr>
<td>&amp; PHY 007B</td>
<td>and General Physics</td>
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Total Units  16-21

Nutrition in Public Health Option

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<tr>
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<tbody>
<tr>
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<tr>
<td>ANT 002</td>
<td>Cultural Anthropology</td>
</tr>
<tr>
<td>SOC 001</td>
<td>Introduction to Sociology</td>
</tr>
</tbody>
</table>

Choose 3-5 units from:

SOC 003  Social Problems
ECN 001A  Principles of Microeconomics
or ECN 001AV | Principles of Microeconomics
or ECN 001AY | Principles of Microeconomics
PSC 001  General Psychology

Choose at least 9 units from Nutrition:

SOC 003  Social Problems
ECN 001A  Principles of Microeconomics
or ECN 001AV | Principles of Microeconomics
or ECN 001AY | Principles of Microeconomics
PSC 001  General Psychology

Choose 3-5 units from:

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 002  Ethnicity & American 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
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

<table>
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<tr>
<th>Code</th>
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<tr>
<td>Requirements</td>
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<tr>
<td>NPB 114</td>
<td>Gastrointestinal Physiology</td>
</tr>
<tr>
<td>NUT/ETX 104</td>
<td>Environmental &amp; Nutritional Factors in Cellular Regulation &amp; Nutritional Toxicants</td>
</tr>
<tr>
<td>NUT 117</td>
<td>Experimental Nutrition</td>
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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
### Nutrition Science, Bachelor of Science

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>NUT 116B</td>
<td>Clinical Nutrition</td>
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<tr>
<td>NUT 118</td>
<td>Community Nutrition</td>
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<tr>
<td>NUT 119A</td>
<td>Global Nutrition</td>
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<tr>
<td>NUT/ETX 127</td>
<td>Environmental Stress &amp; Development in Marine Organisms</td>
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<tr>
<td>NUT 129</td>
<td>Journalistic Practicum in Nutrition</td>
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<tr>
<td>NUT 130</td>
<td>Experiments in Nutrition: Design &amp; Execution</td>
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<tr>
<td>NUT 141</td>
<td>Comparative Animal Nutrition &amp; Metabolism</td>
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<tr>
<td>NUT 190</td>
<td>Proseminar in Nutrition</td>
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<tr>
<td>NUT 192</td>
<td>Internship</td>
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<tr>
<td>NUT 199</td>
<td>Special Study for Advanced Undergraduates</td>
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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 Pharmaceutical Chemistry
- CHE 130B Pharmaceutical Chemistry
- 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
- 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 Writing in the Professions: Health or UWP 104FY Writing in the Professions: Health

**Total Units**: 33

### Nutrition in Public Health Option

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>NUT 113</td>
<td>Principles of Epidemiology in Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>NUT 118</td>
<td>Community Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>SPH 101</td>
<td>Introduction to Public Health</td>
<td>3</td>
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**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
- 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
- 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
- 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