

# MAJOR IN NUTRITION SCIENCE, PRE-HEALTH NUTRITION CONCENTRATION

The Pre-Health Nutrition Concentration is specifically designed for students planning careers in medicine and health science that require an advanced degree, including medical doctor, doctor of osteopathy, physician assistant, nursing, dentistry, physical therapist, pharmacist, anesthesiologist assistant, or research scientist. The program provides a strong science background in physiology, biology, chemistry, and biochemistry providing students flexibility to tailor their courses toward their interests and intended career. The program includes strong training in nutritional science lacking in many advanced health degree programs such as medical school. This training, combined with strong experiential learning opportunities, helps to best prepare students for their careers.

## Learning Objectives

Upon successful completion of this concentration, students will be able to:

1. Demonstrate advanced knowledge of scientific principles relating to biochemistry, physiology, chemistry, and nutrition science.
2. Integrate information from scientific sources, critically analyze and critique scientific information, and develop appropriate conclusions.
3. Apply knowledge to issues relating to human health and disease.

Learn more about the Pre-Health Nutrition Concentration on the Department of Food Science and Human Nutrition website (<https://www.chhs.colostate.edu/fshn/programs-and-degrees/b-s-in-nutrition-and-food-science/>).

## Requirements Effective Fall 2024

### Freshman

		AUCC	Credits
CO 150	College Composition (GT-CO2)	1A	3
FSHN 115	Health Equity (GT-SS3)	1C,1C	3
FSHN 150	Survey of Human Nutrition		3
MATH 117	College Algebra in Context I (GT-MA1)	1B	1
MATH 118	College Algebra in Context II (GT-MA1)	1B	1
MATH 124	Logarithmic and Exponential Functions (GT-MA1)	1B	1
MATH 125	Numerical Trigonometry (GT-MA1)	1B	1
PSY 100	General Psychology (GT-SS3)	3C	3
Select one group from the following:			4
Group A:			
BZ 110	Principles of Animal Biology (GT-SC2)	3A	
BZ 111	Animal Biology Laboratory (GT-SC1)	3A	
Group B:			
LIFE 102	Attributes of Living Systems (GT-SC1)	3A	
Select one group from the following:			5
Group A:			
CHEM 107	Fundamentals of Chemistry (GT-SC2)	3A	
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)	3A	
Group B:			
CHEM 111	General Chemistry I (GT-SC2)	3A	
CHEM 112	General Chemistry Lab I (GT-SC1)	3A	
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )		3B	3
Elective			3
<b>Total Credits</b>			<b>31</b>

### Sophomore

BMS 300 or HES 300	Principles of Human Physiology Physiology for Clinical Health Professions		4
CHEM 113	General Chemistry II		3
CHEM 114	General Chemistry Lab II		1
CHEM 245	Fundamentals of Organic Chemistry		4

CHEM 246	Fundamentals of Organic Chemistry Laboratory		1
FSHN 292	Careers in Nutrition Science Seminar		1
FSHN 340	Food as Preventive Medicine		3
PH 121	General Physics I (GT-SC1)	3A	5
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )		3B	3
Historical Perspectives ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives</a> )		3D	3
Elective			3
<b>Total Credits</b>			<b>31</b>
<b>Junior</b>			
BC 351	Principles of Biochemistry		4
FSHN 350	Human Nutrition		3
FSHN 428	Nutrition Teaching and Counseling Techniques		3
MIP 300	General Microbiology		3
MIP 302	General Microbiology Laboratory		2
Select from one of the following:			3
CO 300	Writing Arguments (GT-CO3)	2	
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)	2	
CO 301C	Writing in the Disciplines: Social Sciences (GT-CO3)	2	
JTC 300	Strategic Writing and Communication (GT-CO3)	2	
Select from one of the following:			3
STAT 201	General Statistics (GT-MA1)	1B	
STAT 301	Introduction to Applied Statistical Methods		
STAT 307	Introduction to Biostatistics		
Electives <sup>1</sup>			8
<b>Total Credits</b>			<b>29</b>
<b>Senior</b>			
FSHN 449	Pathophysiology of Nutrition-Related Diseases		2
FSHN 450	Medical Nutrition Therapy	4B	3
FSHN 453	Biology of Body Weight Regulation		3
FSHN 459	Nutrition in the Life Cycle	4A	3
FSHN 470	Integrative Nutrition and Metabolism		3
FSHN 492	Seminar in Dietetics and Nutrition	4C	2
Electives <sup>1,2</sup>			13
<b>Total Credits</b>			<b>29</b>
<b>Program Total Credits:</b>			<b>120</b>

<sup>1</sup> Students should consult with an advisor before selecting electives to ensure necessary requirements are met for their intended post-graduate plans.

<sup>2</sup> Select enough elective credits to bring the program total to a minimum of 120 credits, of which at least 42 must be upper-division (300- to 400-level).

## Major Completion Map

### Freshman

Semester 1		Critical	Recommended	AUCC	Credits
FSHN 115	Health Equity (GT-SS3)	X		1C	3
FSHN 150	Survey of Human Nutrition	X			3
MATH 117	College Algebra in Context I (GT-MA1)	X		1B	1
MATH 118	College Algebra in Context II (GT-MA1)	X		1B	1

PSY 100	General Psychology (GT-SS3)	X		3C	3
Select one of the following groups:		X			4
Group A:					
BZ 110	Principles of Animal Biology (GT-SC2)			3A	
BZ 111	Animal Biology Laboratory (GT-SC1)			3A	
Group B:					
LIFE 102	Attributes of Living Systems (GT-SC1)			3A	

---

**Total Credits** **15**

<b>Semester 2</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CO 150	College Composition (GT-CO2)	X		1A	3
MATH 124	Logarithmic and Exponential Functions (GT-MA1)	X		1B	1
MATH 125	Numerical Trigonometry (GT-MA1)	X		1B	1
Select one group from the following:		X			5
Group A:					
CHEM 107	Fundamentals of Chemistry (GT-SC2)			3A	
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)			3A	
Group B:					
CHEM 111	General Chemistry I (GT-SC2)			3A	
CHEM 112	General Chemistry Lab I (GT-SC1)			3A	
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )			X	3B	3
Elective			X		3

---

**Total Credits** **16**

**Sophomore**

<b>Semester 3</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CHEM 113	General Chemistry II	X			3
CHEM 114	General Chemistry Lab II	X			1
FSHN 292	Careers in Nutrition Science Seminar	X			1
PH 121	General Physics I (GT-SC1)	X		3A	5
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )			X	3B	3
Historical Perspectives ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives</a> )			X	3D	3

---

**Total Credits** **16**

<b>Semester 4</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BMS 300 or HES 300	Principles of Human Physiology Physiology for Clinical Health Professions	X			4
CHEM 245	Fundamentals of Organic Chemistry	X			4
CHEM 246	Fundamentals of Organic Chemistry Laboratory	X			1
FSHN 340	Food as Preventive Medicine	X			3
Elective			X		3

---

**Total Credits** **15**

**Junior**

<b>Semester 5</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
FSHN 350	Human Nutrition	X			3
MIP 300	General Microbiology	X			3
MIP 302	General Microbiology Laboratory	X			2
Select one from the following:		X			3
CO 300	Writing Arguments (GT-CO3)			2	
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)			2	
CO 301C	Writing in the Disciplines: Social Sciences (GT-CO3)			2	
JTC 300	Strategic Writing and Communication (GT-CO3)			2	

Elective			X		3
<b>Total Credits</b>					<b>14</b>
<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BC 351	Principles of Biochemistry	X			4
FSHN 428	Nutrition Teaching and Counseling Techniques	X			3
Choose one of the following:		X			3
STAT 201	General Statistics (GT-MA1)			1B	
STAT 301	Introduction to Applied Statistical Methods				
STAT 307	Introduction to Biostatistics				
Electives			X		5
<b>Total Credits</b>					<b>15</b>
<b>Senior</b>					
<b>Semester 7</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
FSHN 449	Pathophysiology of Nutrition-Related Diseases	X			2
FSHN 450	Medical Nutrition Therapy	X		4B	3
FSHN 459	Nutrition in the Life Cycle	X		4A	3
Electives			X		6
<b>Total Credits</b>					<b>14</b>
<b>Semester 8</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
FSHN 453	Biology of Body Weight Regulation	X			3
FSHN 470	Integrative Nutrition and Metabolism	X			3
FSHN 492	Seminar in Dietetics and Nutrition	X		4C	2
Electives		X			7
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
<b>Total Credits</b>					<b>15</b>
<b>Program Total Credits:</b>					<b>120</b>