

# MAJOR IN NUTRITION AND FOOD SCIENCE, FOOD SCIENCE CONCENTRATION

The Food Science concentration blends a strong science base with courses in food chemistry, food safety, food microbiology and nutrition. The curriculum prepares students for employment in the food industry or in government in such areas as quality assurance, product development, research, food inspection, sensory evaluation, and consumer education.

The concentration also provides a strong background for students interested in pursuing a graduate program.

Learn more about the Food Science 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 2023

### Freshman

		AUCC	Credits
CHEM 107	Fundamentals of Chemistry (GT-SC2)	3A	4
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)	3A	1
CO 150	College Composition (GT-CO2)	1A	3
FSHN 150	Survey of Human Nutrition		3
FTEC 110	Food-From Farm to Table		3
LIFE 102	Attributes of Living Systems (GT-SC1)	3A	4
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
SOC 100	Introduction to Sociology (GT-SS3)	3C	3
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
Diversity, Equity, and Inclusion ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion</a> )		1C	3
<b>Total Credits</b>			<b>30</b>

### Sophomore

BMS 300	Principles of Human Physiology		4
BUS 150 or CS 110	Business Computing Concepts and Applications Personal Computing		3-4
CHEM 245	Fundamentals of Organic Chemistry		4
CHEM 246	Fundamentals of Organic Chemistry Laboratory		1
FSHN 300	Food Principles and Applications		3
FSHN 301	Food Principles and Applications Laboratory		2
FTEC 210	Science of Food Fermentation		3
SPCM 200	Public Speaking		3
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			1-2
<b>Total Credits</b>			<b>30-32</b>

### Junior

BC 351	Principles of Biochemistry		4
FSHN 350	Human Nutrition		3
FTEC 400	Food Safety		3
FTEC 430	Sensory Evaluation of Food Products	4A	2
JTC 300 or CO 300	Strategic Writing and Communication (GT-CO3) Writing Arguments (GT-CO3)	2	3

MIP 300	General Microbiology		3
MIP 302	General Microbiology Laboratory		2
STAT 201	General Statistics (GT-MA1)	1B	3
Electives			7

**Total Credits** **30**

**Senior**

ANEQ 360	Principles of Meat Science		3
FTEC 350	Fermentation Microbiology		2
FTEC 447	Food Chemistry	4B	2
FTEC 465	Food Production Operations		3
FTEC 492	Seminar: Fermentation Science and Food Safety	4C	2
FTEC 496A	Group Study Fermentation Science: Current Issues		1
FTEC 496B	Group Study Fermentation Science: Functional Foods in Health		1
MIP 334	Food Microbiology		3
Guided Electives (see list below) <sup>1</sup>			12

**Total Credits** **29**

**Program Total Credits:** **120**

<sup>1</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)

**Guided Electives**

Code	Title	Credits
ANEQ 450	Processed Meats	3
ANEQ 460	Meat Safety	2
ANEQ 470	Meat Processing Systems	4
ERHS 220	Environmental Health	3
ERHS 320	Environmental Health–Water Quality	3
FSHN 455	Food Systems–Impact on Health/Food Security	2
FSHN 470	Integrative Nutrition and Metabolism	3
FTEC 351	Fermentation Microbiology Laboratory	2
FTEC 360	Brewing Processes	4

FTEC 375	Introduction to Fermentation Unit Operations	4
FTEC 478	Phytochemicals and Probiotics for Health	2
FTEC 487	Internship	1-15
FTEC 495	Independent Study	1-18
FTEC 570	Food Product Development	2
FTEC 574	Current Issues in Food Safety	2
FTEC 576	Cereal Science	2
MATH 125	Numerical Trigonometry (GT-MA1)	1
MGT 305	Fundamentals of Management	3
PH 121	General Physics I (GT-SC1)	5
RRM 330	Alcohol Beverage Control and Management	2
RRM 400	Food and Society	3
SOCR 330	Principles of Genetics	3

**Major Completion Map**

**Freshman**

Semester 1		Critical	Recommended	AUCC	Credits
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
LIFE 102	Attributes of Living Systems (GT-SC1)	X		3A	4
SOC 100	Introduction to Sociology (GT-SS3)	X		3C	3
Diversity, Equity, and Inclusion ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion</a> )		X		1C	3

**Total Credits** **15**

Semester 2		Critical	Recommended	AUCC	Credits
CHEM 107	Fundamentals of Chemistry (GT-SC2)	X		3A	4
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)	X		3A	1
CO 150	College Composition (GT-CO2)	X		1A	3
FTEC 110	Food-From Farm to Table	X			3
MATH 124	Logarithmic and Exponential Functions (GT-MA1)	X		1B	1

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
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<b>Total Credits</b>			<b>15</b>
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**Sophomore**

<b>Semester 3</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
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BUS 150 or CS 110	Business Computing Concepts and Applications Personal Computing	X			3-4
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CHEM 245	Fundamentals of Organic Chemistry	X			4
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CHEM 246	Fundamentals of Organic Chemistry Laboratory	X			1
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SPCM 200	Public Speaking	X			3
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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
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Elective			X		1-2
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<b>Total Credits</b>				<b>15-17</b>
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<b>Semester 4</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
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BMS 300	Principles of Human Physiology	X			4
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FSHN 300	Food Principles and Applications				3
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FSHN 301	Food Principles and Applications Laboratory				2
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FTEC 210	Science of Food Fermentation	X			3
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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
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<b>Total Credits</b>				<b>15</b>
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**Junior**

<b>Semester 5</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
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BC 351	Principles of Biochemistry	X			4
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JTC 300	Strategic Writing and Communication (GT-CO3)	X		2	3
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FSHN 350	Human Nutrition	X			3
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FTEC 400	Food Safety	X			3
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STAT 201	General Statistics (GT-MA1)			1B	3
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<b>Total Credits</b>				<b>16</b>
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<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
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MIP 300	General Microbiology	X			3
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MIP 302	General Microbiology Laboratory	X			2
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FTEC 430	Sensory Evaluation of Food Products	X		4A	2
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Electives			X		7
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<b>Total Credits</b>				<b>14</b>
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**Senior**

<b>Semester 7</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
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ANEQ 360	Principles of Meat Science	X			3
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FTEC 350	Fermentation Microbiology	X			2
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FTEC 447	Food Chemistry	X		4B	2
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FTEC 465	Food Production Operations	X			3
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FTEC 496A	Group Study Fermentation Science: Current Issues	X			1
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FTEC 496B	Group Study Fermentation Science: Functional Foods in Health	X			1
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Guided Elective (see list on Program Requirements tab)			X		3
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<b>Total Credits</b>				<b>15</b>
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<b>Semester 8</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
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FTEC 492	Seminar: Fermentation Science and Food Safety	X		4C	2
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MIP 334	Food Microbiology	X			3
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Guided Electives (see list on Program Requirements tab)			X		9
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The benchmark courses for the 8th semester are the remaining courses in the entire program of study. X

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<b>Total Credits</b>	<b>14</b>
<b>Program Total Credits:</b>	<b>120</b>