

## B.Sc. in Food Science (Science Option)

### Year 1

Course No.	Course Name	Credit Hours
AGRI 1600	Introduction to Agrifood Systems	3
BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Diversity, Function and Interactions	3
CHEM 1100	Introductory Chemistry 1: Atomic and Molecular Structure and Energetics	3
CHEM 1110	Introductory Chemistry 2: Interaction, Reactivity, and Chemical Properties	3
or CHEM 1130 <sup>1</sup>	or Introduction to Organic Chemistry	
ECON 1010	Introduction to Microeconomic Principles	3
HNSC 1200	Food: Facts and Fallacies	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3
MATH 1300 <sup>2</sup>	Vector Geometry and Linear Algebra	3
or MATH 1210 <sup>2</sup>	or Techniques of Classical and Linear Algebra	
MATH 1500 <sup>3</sup>	Introduction to Calculus	3
or MATH 1510 <sup>3</sup>	or Applied Calculus 1	
or MATH 1520 <sup>3</sup>	or Introductory to Calculus for Management and Social Sciences	
<b>Total Credit Hours</b>		<b>30</b>

### Year 2

Course No.	Course Name	Credit Hours
ABIZ 1000	Introduction to Agribusiness Management	3
AGRI 2030	Technical Communications	3
AGRI 2400 <sup>4</sup>	Experimental Methods in Agricultural and Food Sciences	3
CHEM 1110	Introductory Chemistry 2: Interaction, Reactivity, and Chemical Properties	3
or CHEM 1130 <sup>1</sup>	or Introduction to Organic Chemistry	
CHEM 2730/ MBIO 2730 <sup>5</sup>	Elements of Biochemistry 1	3
CHEM 2740 <sup>6</sup>	Introduction to the Biochemistry Laboratory	3
FOOD 2500	Food Chemistry	3
MBIO 1010 <sup>7</sup>	Microbiology 1	3
Free Electives <sup>8</sup>		6
<b>Total Credit Hours</b>		<b>30</b>

### Year 3

Course No.	Course Name	Credit Hours
BIOE 3530	Engineering Fundamentals	3
FOOD 3010	Food Process 1	3
FOOD 3210	Food Engineering Fundamentals	3
FOOD 4150	Food Microbiology 1	3
FOOD 4160	Food Analysis 1	3
FOOD 4250	Food Analysis 2	3
MKT 2210	Fundamentals of Marketing	3

Note: Any discrepancies between this document and the Academic Calendar, the Academic Calendar takes precedent.

Restricted Electives <sup>9</sup>	6
Free Electives <sup>8</sup>	3
<b>Total Credit Hours</b>	<b>30</b>

**Year 4**

Course No.	Course Name	Credit Hours
FOOD 4010	Food Process 2	3
FOOD 4100	Current Issues in Food and Human Nutrition	3
FOOD 4200	Quality Control in Foods	3
FOOD 4510	Food Product Development	3
Restricted Elective <sup>9</sup>		3
Free Electives <sup>8</sup>		15
<b>Total Credit Hours</b>		<b>30</b>

**Notes:**

- CHEM 2100 (Organic Chemistry 1: Foundations of Organic Chemistry) can be substituted for CHEM 1130 (Introduction to Organic Chemistry).
- Students are recommended to take one of MATH 1300 or MATH 1210 however may also substitute MATH 1220 to meet the requirement.
- Students are recommended to take one of MATH 1500 or MATH 1510 or MATH 1520 however may also substitute MATH 1230 to meet the requirement.
- STAT 2000 (Basic Statistical Analysis 2) can be substituted for AGRI 2400 (Experimental Methods in Agricultural and Food Sciences).
- Under required courses, students can take either CHEM 2730/MBIO 2730 (Elements of Biochemistry 1) or CHEM 2700/MBIO 2700 (Biochemistry I: Biomolecules and an Introduction to Metabolic Energy).
- Under required courses, students can take either CHEM 2740 (Introduction to the Biochemistry Laboratory) or CHEM 2720 (Principles and Practices of the Modern Biochemistry Laboratory).
- Students who already have credit for MBIO 1220 (Essentials of Microbiology) before entering the program can use it towards MBIO 1010 (Microbiology 1).
- There are 24 credit hours of Free Electives required for the Food Science program. Students may apply for the [Cooperative Education Program](#). Two work terms are required to graduate with Co-op designation. Co-op courses (3 credit hours each) are used towards Free Electives.
- There are 9 credit hours of Restricted Electives required for the Food Science, science option. Students must complete:

**Restricted Electives**

<b>Group 1 – Food Safety:</b> choose <u>one course</u> from the following:	3
FOOD 1000	Food Safety, Today and Tomorrow
FOOD 4310*	Introduction to HAACP
FOOD 4500	Food Safety and Regulations
<b>Group 2 – General:</b> choose <u>two courses</u> from the following:	6
FOOD 3160*	Frozen Dairy Products

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FOOD 3170*	Cheese and Fermented Milk Products
FOOD 3220*	Grains for Food and Beverage
FOOD 3500*	Processing of Animal Food Products
FOOD 4230	Food Research
FOOD 4260	Water Management in Food Processing
FOOD 4540	Functional Foods and Nutraceuticals
HNSC 4270*	Sensory Evaluation

\*This course is usually offered every 2nd year - planning ahead is important.