

BACHELOR OF SCIENCE DEGREE

FOOD SCIENCE

COORDINATE MAJOR

FOR ADDITIONAL INFORMATION, PLEASE CONTACT AN ACADEMIC ADVISOR IN THE **DEPARTMENT OF FOOD SCIENCE AND HUMAN NUTRITION**

(1) UNIVERSITY REQUIREMENTS

Writing Requirement

Tier I: LB 133 4
 Tier II: Satisfied by completing the Lyman Briggs College History, Philosophy and Sociology of Science and Senior requirements listed below.

Integrative Studies in Arts & Humanities (IAH)

IAH 201-210* 4
 IAH 211-241*†# 4

Integrative Studies in Social, Behavioral & Economic Sciences (ISS)

ISS 200-level course* 4
 ISS 300-level course*‡@ 4

*National, International, & Multicultural Diversity
 Students must include at least one "N" course and one "I" course in their Integrative Studies programs. A "D" course may meet either an "N" or an "I" requirement, but not both.

†Summer 2013 to Summer 2017: LB 331, 333, and 336 will fulfill the IAH "B" university requirement (IAH 211 or higher). Please consult your LBC Academic Advisor for specific details for your program.

‡Summer 2013 to Summer 2017; LB 332, 334, and 335 will fulfill the ISS 300-level university requirement. Please consult your LBC Academic Advisor for specific details for your program.

Beginning Fall 2017; LB 321a, 322a, 323a, 324a, 325a, 326a and 327a will fulfill the IAH university requirement (IAH 211 or higher).

@ Beginning Fall 2017; LB 321b, 322b, 323b, 324b, 325b, 326b and 327b will fulfill the ISS 300-level university requirement.

Please contact your LBC Academic Advisor for specific details for your program. If you fulfilled the LB 331, 332, 333, 334, 335 or 336 requirement you do not need the new Fall 2017 courses.

Mathematics, Biological and Physical Sciences

Satisfied by the Lyman Briggs College requirements in Mathematics, Biological and Physical Sciences (see next section).

(2) LYMAN BRIGGS COLLEGE REQUIREMENTS

Biological Sciences (9 cr.)

Complete ONE of the following groups of courses
 (1) LB 144 & 145 9
 (2) BS 161, 162, 171, & 172 10

Chemistry (8-9 cr.)

Complete ONE of the following groups of courses
 (1) LB 171, 171L, 172 & 172L 9
 (2) CEM 141, 142, 161, & 162 9
 (3) CEM 151, 152, 161, & 162 9

Physics (8 cr.)

Complete ONE of the following groups of courses
 (1) LB 273, 274* 8
 (2) PHY 231, 232, 251, & 252 8

Mathematics (6-7 cr.)†

Complete ONE of the following groups of courses
 (1) LB 118 & STT 231 7
 (2) MTH 132 & STT 321 6

History, Philosophy & Sociology of Science (11-12 cr.)

LB 133 4
 LB 321-326, 330-336, 355, 490E; ENG 473A; HST 425; SOC 368 7-8

Senior Seminar (4 cr.)

LB 492* 4

*For the Basic Food Science concentration, students may count LB 274 and LB 492 towards the nine credits of major electives

†Please see an advisor regarding Mathematics requirements for this major

Minimum number of credits required: 120

Minimum cumulative and major grade point average: 2.0

(3) MAJOR REQUIREMENTS

Complete ALL of the following courses (36 cr.)

BE	429	Fundamentals of Food Engineering	3
FSC	211	Principles of Food Science	3
FSC	222	Professional Develop/Career Planning	1
FSC	325	Food Processing: Unit Operations	3
FSC	401	Food Chemistry	3
FSC	402	Food Chemistry Lab	1
FSC	310	Sensory Analysis & Consumer Research	3
FSC	422	Hazard Analysis Critical Point Training	1
FSC	440	Food Microbiology	3
FSC	441	Food Microbiology Lab	2
FSC	455	Food & Nutrition Laboratory	3
FSC	470	Integrated Approaches to Food Product Development	3
HNF	150	Introduction to Human Nutrition	3
MMG	301	Introductory Microbiology	3

Complete ONE of the following courses (3 cr.)

FSC	430	Food Processing: Fruits & Vegetables	3
FSC	431	Food Processing: Cereals	3

Complete ONE of the following courses (3 cr.)

FSC	432	Food Processing: Dairy Foods	3
FSC	433	Food Processing: Muscle Foods	3

Complete ONE of the following concentrations

(1) Basic Food Science (25 cr.)

Complete ALL of the following courses (12 cr.)

CEM	251	Organic Chemistry I	3
CEM	252	Organic Chemistry II	3
CEM	255	Organic Chemistry Laboratory	2
BMB	401	Comprehensive Biochemistry	4
STT	201	Statistical Methods	4

Complete nine credits from the following courses (9 cr.)

ANS	407	Food & Animal Toxicology	3
CEM	262	Quantitative Analysis	3
CEM	333	Instrumental Methods and Applications	3
CEM	383	Introductory Physical Chemistry I	3
FSC	421	Food Laws & Regulations	3
LB	274	Physics II	4
LB	492	Senior Seminar	4
MMG	409	Eukaryotic Cell Biology	3
MMG	425	Microbial Ecology	3
MMG	431	Microbial Genetics	3
MMG	445	Microbial Biotechnology (W)	3
MMG	451	Immunology	3
PHM	350	Introductory Human Pharmacology	3
PHM	450	Introduction to Chemical Toxicology	3
PHY	232	Introductory Physics	3

(2) Food Business & Industry (23 cr.)

Complete ALL of the following courses (17 cr.)

ACC	230	Survey of Accounting Concepts	3
BMB	200	Introduction to Biochemistry	4
CEM	143	Survey of Organic Chemistry	4
MKT	327	Introduction to Marketing	3
STT	315	Introduction to Probability and Statistics I For Business	3

Complete two of the following courses (6 cr.)

ABM	100	Decision-making in the Agri-Food System	3
ABM	222	Agribusiness & Food Industry Sales (W)	3
ABM	435	Financial Management in the Agri-Food System	3
FI	311	Financial Management	3

FIM	335	Food Marketing Management	3
MKT	302	Consumer & Organizational Buyer Behavior	3

Note: Either FI 311 or ABM 435, but not both of those courses, may be used towards this concentration.

(3) Food Packaging

Complete ALL of the following courses (22 cr.)

BMB	200	Introduction to Biochemistry	4
CEM	143	Survey of Organic Chemistry	4
PKG	101	Principles of Packaging	3
PKG	221	Packaging with Glass & Metal	3
PKG	322	Packaging with Paper & Paperboard	4
PKG	323	Packaging with Plastics	4

(4) Food Technology (23 cr.)

Complete ALL of the following courses (10 cr.)

BMB	200	Basic Biochemistry	4
CEM	143	Survey of Organic Chemistry	4
FSC	420	Quality Assurance	2
STT	201	Statistical Methods	4

Complete nine credits from the following courses (9 cr.)

CEM	482	Science & Technology of Wine Prod	3
CHE	483	Brewing & Distilled Beverage Prod	3
FSC	342	Food Safety & HACCP Program	3

FSC	421	Food Laws & Regulations	3
FSC	430	Food Processing: Fruits & Vegetables	3
FSC	431	Food Processing: Cereals	3
FSC	432	Food Processing: Dairy Foods	3
FSC	433	Food Processing: Muscle Foods	3
FSC	481	Fermented Beverages	3
HB	100	Introduction to Hospitality Business	2
HB	265	Food Management: Safety & Nutrition	3
HB	267	Management of Food & Beverage	3
HB	409	Introduction to Wine	3
HNF	300	Experimental Approaches to Food	4

Courses selected to meet this requirement may not be used to fulfill the Food Processing (animal/plant) requirement.

NOTE: The Basic Food Science concentration fills many, but not all, of the minimum requirements for admission to professional schools. Students interested in preparing for post-graduate professional programs should consult with a pre-professional advisor in the College of Natural Science. Admission requirements of professional schools vary and the student is responsible for reviewing the requirements of each school of interest and consulting regularly with an advisor.

IMPORTANT: This advising guide is presented for planning purposes only. It is the student's responsibility for knowing and following University, college and departmental requirements as stated in the [Academic Programs Catalog](#).

The Academic Advisors will provide information and suggest others based on expressed interests. It is the student's responsibility for enrolling in classes and selecting the number of credits per semester for success. Appointments are made using the [Student Success Dashboard](#).