



# FOOD SCIENCE (Schedule of Studies)

COLLEGE OF AGRICULTURAL, HUMAN, AND NATURAL RESOURCE SCIENCES

The School of Food Science has merged the Washington State University's (WSU) and University of Idaho's (UI) Food Science programs for a Bachelor of Science degree in Food Science. This **food science major** is for students interested in the science of food processing, quality, safety, and product development. Students gain practical training in the application of chemistry and microbiology to the formulation of foods. The schedule below is only a guideline. Course selection and order taken may deviate according to student's needs, and in consultation with advisor. Classes are offered on both WSU and UI campuses, so travel is required. This Bachelor of Science degree requires a total of 120-121 semester hours. At least 40 of the total hours required for the degree must be in upper division courses (300-400 level). For the meaning of bracketed symbol letters, e.g. [PSCI], see University Common Requirements (UCOREs) for Graduation in the WSU Catalog <http://catalog.wsu.edu/General/AcademicRegulations/Search/both/ucore>. The schedule below is guideline. Review Food Science information at <http://sfs.wsu.edu/undergraduates/wsu-undergrads/>.

## FRESHMAN YEAR

<u>First Semester</u>	<u>Credits</u>	<u>Second Semester</u>	<u>Credits</u>
Chem 105 [PSCI] Prin. of Chemistry I <sup>+</sup> (UCORE)	4	Biol 107 [BSCI] Intro Biol:Cell Biol/Genet (UCORE)	4
Engl 101 [WRTG] Introductory Writing <b>Or</b> Engl 105 [WRTG] Composition for ESL <sup>+</sup> (UCORE)	3	Chem 106 [PSCI] Principles of Chem II <sup>+</sup> (UCORE)	4
Creative & Professional Arts [ARTS] (UCORE)	3	FS 110 Intro to Food Science	3
Math 140 [QUAN] Calculus for Life Scientists <sup>+</sup> <b>Or</b> Math 171 [QUAN] Calculus I <sup>+</sup> (UCORE)	<u>4</u>	History 105 [ROOT] (UCORE)	<u>3</u>
	<b>14</b>		<b>14</b>

## SOPHOMORE YEAR

<u>First Semester</u>	<u>Credits</u>	<u>Second Semester</u>	<u>Credits</u>
Electives <sup>2</sup>	3	Biology 140 Intro to Nutritional Science	3
Chem 345 Organic Chemistry I <sup>+</sup>	4	MBioS 303 Introductory Biochemistry <sup>+</sup>	4
Com 102 [COMM] Public Speaking <b>Or</b> H D 205 [COMM] Comm For Human Rel (UCORE)	3-4	Econ 101 [SSCI] Fundamentals of Microeconomics	3
PHYSICS 101 [PSCI] General Physics (UCORE)	<u>4</u>	MBioS 101 Introductory Microbiology <b>Or</b> MBioS 305 Gen Micro <sup>+</sup> and MBioS 304 Lab <sup>+</sup>	4 -5
		FS 220 Food Safety & Quality	<u>3</u>
<i>(Certify major)</i>	<b>14-15</b>	<i>(Complete writing portfolio)</i>	<b>17-18</b>

## JUNIOR YEAR

<u>First Semester</u>	<u>Credits</u>	<u>Second Semester</u>	<u>Credits</u>
Humanities [HUM] <sup>+</sup> (UCORE)	3	FS 422 Sensory Evaluation of Food & Wine <sup>+</sup>	3
FS 302 Food Processing Lab <sup>+</sup>	1	FS 423 Sensory Evaluation of Food & Wine Lab <sup>+</sup>	1
FS 303 [M] Food Processing <sup>+</sup>	3	FS 432 Food Engineering <sup>+</sup>	3
FS 416 Food Microbiology <sup>+</sup>	3	FS 433 Food Engineering Lab <sup>+</sup>	1
FS 417 Food Microbiology Lab <sup>+</sup>	2	Electives <sup>2</sup>	3
Stat 212 Intro Statistics <sup>+</sup> (UCORE)	4	Diversity [DIVR]	<u>3</u>
	<b>16</b>	<i>(apply for graduation)</i>	<b>14</b>

## SENIOR YEAR

<u>First Semester</u>	<u>Credits</u>	<u>Second Semester</u>	<u>Credits</u>
FS 460 Food Chemistry <sup>+</sup>	3	FS 418 Seminar in Food Science <sup>+</sup>	1
FS 461 [M] Food Chemistry Lab <sup>+</sup>	1	FS 462 Food Analysis <sup>+</sup>	3
Electives <sup>2</sup>	<u>12</u>	FS 470 Adv. Food Technology <sup>+</sup>	3
	<b>16</b>	FS 489 Food Product Development <sup>+</sup> (UCORE/CAPS)	3
		Electives <sup>2</sup>	<u>4</u>
			<b>14</b>

**Total Credits 118<sup>3</sup>-121**

<sup>1</sup> One semester of calculus (Math 140 or Math 171) is required for students competing for scholarships offered by the Institute of Food Technologists (IFT).

<sup>2</sup> Electives may be selected using the Emphasis Areas below, under consultation with academic advisor. A total of 21 credits are needed by graduation, so plan ahead and take credits early in your program.

<sup>3</sup> If 118 credits, you'll need 2 more credits to equal the 120 credit minimum to graduate.

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+ The "+" indicates that the course has a prerequisite.

**EMPHASIS AREAS:** To fulfill 21 credits of Electives, select an area below or choose from any WSU minor. It is the student's responsibility to fulfill minor requirements and turn in all required minor paperwork.

**PROCESSING:** FS electives equip students with skills for numerous careers upon graduation, including production, product development, quality assurance, and others. Select 16 credits from the following list: FS 304, 406, 407, 429, 430, 464, 465, 466; Hort 435, Engl 402, Vit\_Enol 113, UI FS 363. See below for more details.

**BUSINESS:** Students can gain an emphasis in business by taking selected courses in accounting, finance, management, economics, writing, and others. Need special permission from the College of Business, if getting a minor. (Business minor must have a certified major and 2.5 GPA, take 18 hours in business classes (9 hours must be 300-400 level), and one class must be Acctg 230.)

**SCIENCE:** Students wishing to pursue a graduate degree in food science may want to take 16 elective credits as upper-division courses in chemistry, microbiology, biochemistry, agriculture, statistics, nutrition, or science/technical writing.

- OTHER:**
- Students with an Enology interest consider the following: FS 465, 466, 496; Hort 435, Vit\_Enol 113.
  - Directed Undergraduate School of Food Science Research in FS 499. Pre-arrange with faculty and fill out agreement form from Food Science main office
  - Internship in Food Science (FS 495) or Internship in a Winery (FS 496) for 2 credits. Three to six month internships can be arranged with food industries, processors and /or wineries to provide students with work experience in their areas of interest. Pre-arrange with faculty, industrial supervisor and fill out agreement form from School of Food Science main office.
  - Possible minors to pick from: Biology, Business, Chemistry, Economics, Hospitality and Business Management, Horticulture.
  - Study Abroad – <http://ip.wsu.edu/global-learning/education-abroad/home.html>
  - Honors College - <http://honors.wsu.edu/>

Course	Course Name	Credit	Semester	Emphasis
FS 201	Science on Your Plate	3	Fall	
FS 301	Food Mycology	3	Fall (WSU Only, alt)	Processing
FS 304	Cereal Products	2	Fall	Processing
FS 329	Dairy Foods Composition & Quality	4	Fall	Processing
FS 401	HACCP/GAPS	1	Fall/Spring	Processing/Business
FS 406	Evaluation of Dairy Products I	1	Spring	Processing
FS 407	Evaluation of Dairy Products II	1 (0-3)	Fall	Processing
FS 409	Principles of Environmental Toxicology	3	Fall	Processing
FS 429	Dairy Products	3	Fall	Processing
FS 430	Dairy Products Lab	1 (0-3)	Fall	Processing
FS 436	Principles of Sustainability	3	Spring	Processing
FS 464	Food Toxicology	3	Fall (UI Only)	Processing
FS 465	Wine Microbiology & Processing	3	Fall	Processing/Enology
FS 466	Wine Microbiology & Processing Lab	1 (0-3)	Fall	Processing/Enology
FS 475	Statistical Quality Management of Food Prod.	3	Fall	Processing
FS 495	Internship in Food Science	2	Fall/Spring/Summer	Processing
FS 496	Internship in a Winery	2	Fall/Summer	Processing/Enology
A S 360	Meat Science	3	Spring	Processing
FS 363	Animal Products for Human Consumption	3	Spring (UI Only)	Processing
EconS 351	Intro to Food and Agricultural Markets	3	Fall	Processing/Business
Engl 402	Technical and Professional Writing	3	Fall/Spring/Summer	All
Engl 403	Technical and Professional Writing ESL	3	Fall/Spring/Summer	All
HBM 258	Fundamentals of Cooking and Lab	3	Fall/Spring	All
Hort 435	Chemistry and Biochemistry of Fruit and Wine	3	Spring A/Y	Enology
Mktg 360	Marketing	3	Fall	Processing/Business
Vit_Enol 113	Introduction to Wines and Vines	3	Fall	Processing/Enology
AFS 101	Introduction to Agricultural and Food Systems	3	Fall	
AFS 201	Systems Skills Development for AFS	3	Spring	
AFS 401	Adv. Systems Analysis & Design in AFS	3	Spring	
ENTOM 101	Insects and People: A Perspective	3	Fall/Summer	
CROP_SCI 102	Introduction to Cultivated Plants	3	Fall/Spring	
SOIL_SCI 101	Organic Gardening and Farming	3	Fall/Spring	