

FOOD SCIENCE, Fermentation Science (effective Fall 2016)

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 **fermentation science major** is for students interested in yeasts, bacteria and molds, the science behind fermented beverages and foods, and industrial-scale applications of fermentation. 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/>.

<u>FRESHMAN YEAR</u>			
<u>First Semester</u>	<u>Credits</u>	<u>Second Semester</u>	<u>Credits</u>
Biol 107 [BSCI] Intro Biol:Cell Biol/Genet (UCORE)	4	Chem 106 [PSCI] Principles of Chem II+ (UCORE)	4
Chem 105 [PSCI] Prin. of Chemistry I+ (UCORE)	4	History 105 [ROOT] Roots of Contemporary Issues (UCORE)	3
VE 113 Introduction to Vines and Wines	3	Math 140 [QUAN] Calculus for Life Scientists+ Or Math 171 [QUAN] Calculus I+ (UCORE)*	4
Engl 101 [WRTG] Introductory Writing Or Engl 105 [WRTG] Composition for ESL+ (UCORE)	<u>3</u>	Creative & Professional Arts [ARTS] (UCORE)	<u>3</u>
	14		14
<u>SOPHOMORE YEAR</u>			
<u>First Semester</u>	<u>Credits</u>	<u>Second Semester</u>	<u>Credits</u>
Chem 345 Organic Chemistry I+	4	FS 220 Food Safety & Quality	3
Com 102 [COMM] Public Speaking Or H D 205 [COMM] Comm For Human Rel (UCORE)	3-4	FS 304 Cereal Chemistry and Processing+	2
PHYSICS 101 [PSCI] General Physics (UCORE)	4	MBioS 101 [BSCI] Introductory Microbiology Or MBioS 305 Gen Micro+ and MBioS 304 Lab+	4-6
STAT 212 [QUAN]+ Intro to Statistical Methods (Certify major)	<u>4</u>	MBioS 303 Introductory Biochemistry+	<u>4</u>
	15-16	(Complete writing portfolio)	13-15
<u>JUNIOR YEAR</u>			
<u>First Semester</u>	<u>Credits</u>	<u>Second Semester</u>	<u>Credits</u>
ECONS 101 [SSCI] Fundamentals of Microeconomics	3	Diversity [DIVR]	3
FS 302 [M] Food Processing Lab+	1	FS 422 Sensory Evaluation of Food & Wine+	3
FS 303 Food Processing+	3	Humanities [HUM]+ (UCORE)	3
MKTG 360 Marketing+	3	Laboratory Elective ³	1
Option Elective ²	<u>3</u>	Option Elective ²	3
	16	PLP/FS 301 Food Mycology+	<u>3</u>
		(apply for graduation)	16
<u>SUMMER SESSION</u>			<u>Credits</u>
FS 495 Internship in Food Science Or FS 496 Internship in a Winery			2
<u>SENIOR YEAR</u>			
<u>First Semester</u>	<u>Credits</u>	<u>Second Semester</u>	<u>Credits</u>
FS 429 Dairy Products	3	FS 402 Industrial Fermentations+	3
FS 460 Food Chemistry ⁺¹	3	FS 405 Ciders and other Fermented Foods+	3
FS 465 Wine Microbiology and Processing+	3	FS 418 Oral Seminar in Food Science	1
Laboratory Elective ³	2	Capstone Course [CAPS] ⁺⁵	3
Microbiology/Genetics Elective ⁴	3	Elective	<u>4</u>
Writing in the Major [M] ⁶	<u>1</u>		
	15		14
Total Credits			119-122

The + indicates that the course has a prerequisite.

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

¹HORT 435 Chemistry and Biochemistry of Fruit and Wine can be substituted per advisor approval.

²Option Electives (6 hours minimum): BIO ENG 350 Introduction of Cellular Bioengineering; FS 329 Dairy Foods Composition and Quality; FS 432 Food Engineering; FS 470 Advanced Food Technology; HBM 350 Beverage Management.

³Laboratory Electives (3 hours minimum): FS 417 Food Microbiology Laboratory; FS 423 Sensory Evaluation of Food and Wine Laboratory; FS 430 Dairy Products Laboratory; FS 461 Food Chemistry Laboratory [M]; FS 466 Wine Microbiology and Processing Laboratory.

⁴Microbiology/Genetics Electives (3 hours minimum): BIOL/MBIOS 301 General Genetics; FS 416 Food Microbiology; MBIOS 450 Microbial Physiology.

⁵FS 489 Product Development [CAPS] is recommended but requires FS 416 Food Microbiology and FS 460 Food Chemistry as prerequisite courses.

⁶While ENGLISH 402 Technical Writing [M] is recommended, other [M] courses will satisfy the requirement regardless of number of hours.

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