

A STUDENT'S GUIDE & INTRODUCTION TO

FOOD SCIENCE AND TECHNOLOGY



Department of Food Science and Technology

foodsci.oregonstate.edu

College of Agricultural Sciences

Oregon State University

100 Wiegand Hall

Corvallis, OR 97331

Head Advisor: Dan Smith | dan.smith@oregonstate.edu | 541.737.2590

Academic Programs: Food.Science@oregonstate.edu

Interim Department Head: Dr. Lisbeth Goddik



2019-2020

Welcome to the Department of Food Science and Technology! You are on your way to becoming part of the world's largest industry.

This guide provides helpful information about the department, the requirements for Food Science and Technology majors, as well as university resources that will be helpful to you.

Our department is here to set you up for success! The Food Science and Technology Department (FST) provides a personal, student-friendly environment. Classes are smaller and allow you to better know your professors, your advisor, and one another. We have a student lounge in Room 107 where you can use your laptop with Wi-Fi access, eat lunch, or use one of the FST computers and printer.

ADVISING

You should meet with your advisor at least once per quarter to discuss your academic progress, update your course plans, **and obtain the registration PIN required for each quarter's registration.** Summer enrollment does not require a PIN. Dan Smith is the Head Advisor and Glen Li advises students with the Fermentation Science and Enology and Viticulture options. To schedule your advising appointment, go online to the FST Advising page in Canvas <https://oregonstate.instructure.com/> and make your appointment using Dan or Glen's advising link. If you have questions, contact academic programs by email at Food.Science@oregonstate.edu.

COLLEGE TRANSFER AND DEGREE PARTNERSHIP PROGRAM STUDENTS

Many foundation science and Baccalaureate Core courses can be completed at other institutions. Students who plan to transfer coursework from another school to OSU should follow as closely as possible the FST model curriculum schedule for the freshman and sophomore years. Consult OSU transfer guides <http://oregonstate.edu/admissions/transfer-credit> and articulation tables <http://oregonstate.edu/admissions/oregon-college-articulation-tables> for assistance. **It is best to contact the department for guidance prior to enrollment at OSU or concurrent to enrollment at a community college.**

MAJOR OPTIONS

FST offers undergraduates three options, each leading to a Bachelor of Science Degree. They are Food Science, Fermentation Science, and Enology and Viticulture. All options require that a student take courses in the **Core Curriculum**, which contains courses in Food Science and Technology, Chemistry, Biochemistry, Math, Physics, and Biology. In addition, each option requires a group of courses specific to that option. Students must specify which option they will pursue. It is best if this is done by the end of the first year of studies or before the beginning of the junior year for transfer students.

In fulfilling the required Chemistry courses in the major curriculum, FST students also earn a Chemistry minor, provided they meet the required 2.00 GPA in these courses. You must officially declare the minor through the Registrar's office. Change of Program forms can be picked up from Dan Smith.

MINORS/ELECTIVES/AREAS OF INTEREST

There are many options for a student interested in minors or other science electives. Minors in other subjects often complement the Food Science Degree. The most commonly selected minors are: 1) Business & Entrepreneurship, 2) Microbiology, and 3) Nutrition. FST offers minors in Food Science, Food Technology and Fermentation Science.

OSU has a unique [International Degree](#), offered only in conjunction with another undergraduate degree. The additional required credits include taking more Baccalaureate Core courses, foreign language courses (fourth year level), and a minimum of 10 weeks of experience (study, internship, etc.) in a foreign country.

FST GRADING POLICY AND REQUIREMENTS

Minimum Cumulative Grade Point Average

- To remain in good standing, and be eligible for graduation, a student must maintain a cumulative GPA of at least 2.00 for all OSU course work.
- More information on grades and grading policies may be found within the **Academic Regulations** of the [OSU General Catalog & Schedule of Classes](#).

Additional FST Major-Specific Policies

A-F vs. S/U Grading

1. All courses required for completion of the FST major must be passed, graded on the A-F scale. Included are both Core and Option courses in FST, as well as supporting courses in math, sciences, and written and oral communication.
2. Any other courses, including Baccalaureate Core courses, except for those that are also used in fulfillment of major requirements, may be taken on a Satisfactory/Unsatisfactory (S/U) graded basis. Per Academic Regulation 18, <https://catalog.oregonstate.edu/regulations/>, the maximum S/U credits allowed is 36 credits.

Minimum 2.00 GPA required in the Major

- To ensure you and your future employers of your competence in this discipline, FST has the following additional grade requirement in each option. The cumulative GPA of specified FST and related science courses completed at OSU, as listed in the option-specific tables on reverse, must be at least 2.00. This GPA appears as your “major” GPA in My Degrees.

Repeated Courses

Repeated grade details here: <https://catalog.oregonstate.edu/regulations/#text>

If necessary to earn a passing grade, a student may repeat a required course in the major more than once.

The passing grade will be accepted in fulfillment of the major requirement, and the final grade used in the calculation of the FST Major GPA. However, for the OSU GPA calculation the 2nd graded attempt in a course is used, even if further repeats of that course are done.

Minimum C- or better grade is required in the following courses:

BI 212, BI 213, CH 231-233, CH 331-332 and CH 263, MTH 111, MTH 112, MTH 227 or MTH 251, PH 201, ST 351, WR 121.

Courses included in Major GPA calculation – by option

Food Science	Fermentation Science	Enology and Viticulture
BB 350 Elementary Biochemistry	BB 350 Elementary Biochemistry	BB 350 Elementary Biochemistry
BEE 472 Intro to Food Engineering Principles	BEE 472 Intro to Food Engineering Principles	BEE 472 Intro to Food Engineering Principles
BEE 473 Intro to Food Engineering Process Design	BEE 473 Intro to Food Engineering Process Design	BEE 473 Intro to Food Engineering Process Design
CH 324 Quantitative Analysis	CH 324 Quantitative Analysis	BOT 331 Plant Physiology
FST 360 Food Safety and Sanitation	FST 360 Food Safety and Sanitation	CH 324 Quantitative Analysis
FST 370 Industry Preparation/HACCP	FST 370 Industry Preparation/HACCP	FST 360 Food Safety and Sanitation
FST 385 Communicating Food and Fermentation Science	FST 385 Communicating Food and Fermentation Science	FST 385 Communicating Food and Fermentation Science
FST 407 Senior Seminar	FST 407 Senior Seminar	FST 370 Industry Preparation/HACCP
FST 420 Sensory Evaluation of Food	FST 421 Food Law	FST 407 Senior Seminar
FST 421 Food Law	FST 422 Food Chemistry Fundamentals	FST 421 Food Law

FST 422 Food Chemistry Fundamentals	FST 423 Food Analysis	FST 422 Food Chemistry Fundamentals
FST 423 Food Analysis	FST 425 Food Systems Chemistry	FST 425 Food Systems Chemistry
FST 425 Food Systems Chemistry	FST 460 Brewing Science	FST 466 Wine Production Principles
FST 490 Food Processing Calculations	FST 466 Wine Production Principles	FST 467 Wine Production, Analysis, and Sensory Evaluation
FST 491 Food Process Calculations Lab	FST 479 Fermentation Microbiology	FST 479 Fermentation Microbiology
FST 495 Food Packaging	FST 490 Food Processing Calculations	HORT 453 Grapevine Growth and Physiology
MB 302 General Microbiology	FST 491 Food Process Calculations Lab	HORT 454 Principles and Practices of Vineyard Production
MB 303 General Microbiology Lab	FST 495 Food Packaging	MB 302 General Microbiology
MB 440 Food Microbiology	MB 302 General Microbiology	MB 303 General Microbiology Lab
	MB 303 General Microbiology Lab	
Plus any courses used in fulfillment of “option electives”. See list of option electives at https://catalog.oregonstate.edu/college-departments/agricultural-sciences/food-science-technology/food-science-technology-bs-hbs/food-science-option/#requirementstext	Plus any courses used in fulfillment of “option electives”. See list of option electives at https://catalog.oregonstate.edu/college-departments/agricultural-sciences/food-science-technology/food-science-technology-bs-hbs/fermentation-science-option/#requirementstext	Plus any courses used in fulfillment of “option electives”. See list of option electives at https://catalog.oregonstate.edu/college-departments/agricultural-sciences/food-science-technology/food-science-technology-bs-hbs/enology-viticulture-option/#requirementstext

Food Science and Technology: COURSE DESCRIPTIONS

<https://catalog.oregonstate.edu/courses/fst/>

EMPLOYMENT/INTERNSHIPS

All students are encouraged to gain as much practical industrial experience as possible in their FST program – getting summer (and sometimes fall) jobs in the food and fermented beverage industry is an absolute **key** to landing a good job after graduation. Students typically work in brewing, wineries, dairy processing, quality assurance laboratories, and seasonal fruit and vegetable processing. Students may also participate in international internship programs.

Drs. Lisbeth Goddik (dairy and food industry), Tom Shellhammer (brewing industry), and James Osborne (wine industry) coordinate employment as well as internship opportunities for FST students. Students with summer/seasonal industry jobs may register for official internship credits. Up to three internship credits may be utilized on a student’s program.

SCHOLARSHIPS

Thanks to various food companies, food industry trade associations, professional societies and individuals, the OSU Department of Food Science and Technology is fortunate to coordinate a reasonable number of scholarships and grants. Typically, about \$90,000 in scholarships is awarded each year from the College of Agricultural Sciences and the FST Department. Apply for them here: <https://scholarships.oregonstate.edu/scholardollars> and find even more industry awards on Canvas – FST Advising – Scholarships.

Most student awards are undergraduate scholarships, which recognize academic performance and achievement in Food Science (which includes club activities, internships, or other professional development activities within the Food Science field).

Institute of Food Technologists (IFT) Scholarships

The application is available at: <http://www.ift.org/community/students/scholarships.aspx>. Application deadlines vary (Feb 1 – Mar 1). *These are scholarships from a national organization, and our students typically win every year!*

College of Agriculture Sciences Scholarships

- Since the Department of Food Science and Technology is within the College of Agricultural Sciences (CAS), you are eligible to apply for CAS scholarships.
- To apply for CAS scholarships, complete the [Application Form](#). **Completed applications must be submitted by February 1.** (Note: If you are an entering OSU student (first-year or transfer) you should not use this application. You will automatically be considered for CAS Agricultural Honors Scholarships by answering the scholarship questions in the OSU Admissions online application.
- You may ask questions about the CAS scholarships by emailing casstudy@oregonstate.edu or calling 541.737.2211.
- The scholarship application is available from November 15 until February 15.

OSU Academic Scholarships

- This application is available at [Scholarships Office](#), and is for university-wide academic scholarships ONLY.
- Apply by February 1.

Need-based scholarships and FINANCIAL AID for all OSU Students

Apply for Financial Aid such as loans, need-based scholarships, grants, and tuition waivers by filling out a FAFSA and submitting it with OSU as one of your school selections. You can do this online or submit it by mail. The preferred deadline is February 28, but if you apply after that you may still be eligible for remaining funds.

OSAC Scholarships

The [Oregon Student Assistance Commission](#) administers privately funded scholarships for Oregon residents. The application deadline is March 1.

Food and Fermentation Science Club

Club Officers, 2019-2020

President	Kaajal Mishra	mishrak@oregonstate.edu
Vice President	Alex Varga	vargaal@oregonstate.edu
Secretary	Taylor Johnson	johnsta8@oregonstate.edu
Treasurer	Daisy Chen	chendai@oregonstate.edu
Food Chair	Mary Graham	grahmary@oregonstate.edu
Food Vice Chair	Howard	tardyh@oregonstate.edu
Fermentation Chair	Jordan Chulyak	chulyakj@oregonstate.edu
Fermentation Vice Chair	Maika Watanabe	watanama@oregonstate.edu
OSIFT UG Representative	Brandon Riesgaard	Riesgaab@oregonstate.edu
OSIFT Grad Representative	Jordyn Bunting	buntingj@oregonstate.edu

The Food and Fermentation Science club is comprised of undergraduate and graduate students with an interest in food production, fermented foods and beverages. The Club is open to any OSU student and all FST majors are encouraged to participate. **General meetings are held monthly in the student lounge, Wiegand 107, 238 or 115.** To join the club email list email the club vice president or choose the [join the club email](#) link here.

The Club hosts monthly, hands-on pilot plant experiences such as Brew house wort production, food production (salsa, sausage, pickles of all kinds, and jelly to name a few), and cheese production. The Club is also active in IFT Student Association events such as the Product Development Team and the College Bowl Team.

Each year the Club sponsors special events such as a fall term Oktoberfest “Welcome” picnic, a spring picnic, presentations by special speakers, various seminars, and field trips.

For those students interested in just wine, the [Vitis Club](#) welcomes and encourages students to [get involved](#).

PROFESSIONAL AFFILIATIONS

Most professional organizations allow student membership. You are encouraged to join at least one professional organization to gain a professional edge which will also provide you a network for employment, scholarships, and opportunities to know what is going on in your field of interest.

- Institute of Food Technologist (IFT)** – FST students are eligible and encouraged to become student members of IFT – the international scientific society for professional food scientists. IFT offers unique resources to help position you for career development. You'll benefit from unique opportunities to get involved, obtain valuable experience, network with peers and leading food specialists worldwide.
[Applications for IFT membership](#) (\$50/year for students) are available on the IFT website. An additional \$10/year is required for member to the Oregon Section IFT (OSIFT). Membership includes a subscription to *Food Technology* magazine and ensures that student members receive a 50% meal subsidy when attending Oregon Section IFT technical meetings (held monthly, generally on the second Tuesday). In addition, transportation to the monthly meetings is available free of charge! As a member, you are eligible for IFT and OSIFT (Oregon Section of IFT) scholarships
- Master Brewers Association of the Americas (MBAA)** – If you want to stay abreast of new advances and developments in the brewing industry and network with people world-wide, you can join MBAA for \$42/year. Find more information at the [MBAA website](#). As a member, you are eligible for MBAA scholarships.
- American Society of Brewing Chemists (ASBC)** – By joining [ASBC](#), you can stay in connection with industry news by receiving the [Journal of the American Society of Brewing Chemists](#). The cost of membership is \$57/year, and students must be endorsed by a faculty member. As a member, you are eligible for ASBC scholarships.
- American Society of Enology and Viticulture (ASEV)** – Students interested in Enology and Viticulture gain added awareness of the industry by becoming members of the student chapter of the [American Society for Enology and Viticulture](#). [Membership is \\$45/year](#), and students must be endorsed or recommended by a faculty member. As a member, you are eligible for ASEV scholarships.

OSU Services Directory

SUBJECT	DEPARTMENT	LOCATION	PHONE	WEB SITE
Alcohol Information	Health Education, Student Health Services	Plageman Building	737-7552	http://studenthealth.oregonstate.edu/prevention-center/alcohol-resources
Athletic Tickets	Ticket Office	Gill Coliseum 107	737-4455	http://www.osubeavers.com/sports/2016/7/27/student-ticket-information.aspx
Books & Supplies	OSU Bookstore	Memorial Union	737-4323	http://osubeaverstore.com/Academics/
Campus Tours	Admissions	108 Kerr Administration Bldg.	737-2626	https://visitosu.oregonstate.edu/
Campus Phone Numbers	Campus Operator		737-1000	
Campus Police/Security	Public Safety	200 Cascade Hall	737-3010	https://publicsafety.oregonstate.edu/
Career Information	Career Services	8 Kerr Administration Bldg	737-4085	https://career.oregonstate.edu/
Change of Address	Registrar's Windows	102 Kerr Administration Bldg	737-4331	http://infosu.oregonstate.edu/ (click on student registration and records)
Change of Grades	Contact Instructor			
Change of College	Consult Academic Advisor			
Child Care	OSU Childcare Center, Kindercare	11 th & Adams	737-4641	https://familyresources.oregonstate.edu/
Clubs/Organizations	Student Involvement	Student Experience Center	737-2101	https://sli.oregonstate.edu/orgs/findanorg
Computer Labs		Milne 150A, 150B	737-8787	https://is.oregonstate.edu/media-services

Counseling, Personal	Counseling & Psychological Services	500 Snell Hall Fifth Floor	737-2131	http://counseling.oregonstate.edu/
Cooperative Housing	Housing & Dining Services	Oxford House (9 th & Jefferson)	737-4771	http://oregonstate.edu/uhds/
Cultural Centers	Asian Cultural Center	2695 SW Jefferson Way	737-6361	http://oregonstate.edu/apcc/
	Native American Longhouse	311 SW 26 th St.	737-2738	http://oregonstate.edu/nal/
	Centro Cultural César Chávez (Hispanic)	691 SW 26th St	737-3790	http://oregonstate.edu/cccc/
	Lonnie B. Harris Cultural Center (African American)	100 SW Memorial Place	737-4372	http://oregonstate.edu/bcc/
Dean of Students	Kevin Dougherty Dean of Students	150 Snell Hall	737-8748	http://studentlife.oregonstate.edu/
Diversity & Cultural Engagement	228 Student Experience Center	228 Student Experience Center	737-9030	http://dce.oregonstate.edu/
Extended Class Absence	Consult Advisor			
Employment (work study)	Financial Aid & Scholarships	218 Kerr Admin Bldg.	737-2241	https://financialaid.oregonstate.edu/federal-workstudy
Employment: full time, part time, summer interns	CANVAS			https://oregonstate.instructure.com/courses/1591190/pages/job-and-internship-announcements?module_item_id=17058935
Safe Ride (hours on website)	Safe Transportation		737-5000	http://asosu.oregonstate.edu/saferide/
Campus Police & Security		200 Cascade Hall	737-3010	Non-emergency
Examinations	(make up for mid-term or final)	Contact Instructor		
Family Planning	Gynecology Clinic, Student Health Services	Plageman Building	737-9355	http://studenthealth.oregonstate.edu/
Fees (housing bills, general deposit, tuition)	Cashier's Windows, Business Affairs	1 st floor, Kerr Admin Bldg	737-3031	http://fa.oregonstate.edu/business-affairs
Financial Difficulties	Financial Aid & Scholarships	218 Kerr Admin Bldg	737-2241	http://financialaid.oregonstate.edu/
Foreign Exchange Program	International Education Office	University Plaza Suite 130 (1600 Western St.)	737-3006	http://oregonstate.edu/international/
Fraternities	Inter-fraternity Council	306 Student Experience Center	737-5646	http://studentlife.oregonstate.edu/cfsl
Graduation Requirements	Consult Dan Smith	Wgnd 100 or 128A	737-6486	Dan.smith@oregonstate.edu
Health Concerns	Student Health Services	Plageman Building	737-9555	http://studenthealth.oregonstate.edu/
Housing (campus)	Housing & Dining Services	Oxford House (9 th & Jefferson St)	737-4771	http://oregonstate.edu/uhds/
Housing (off campus)	Student Involvement	Oxford House (9 th & Jefferson St)	737-4771	http://oregonstate.edu/uhds/off-campus
Information, OSU	Campus Operator		737-1000	
Insurance (health)	Student Health Services	Plageman Building	737-7568	http://studenthealth.oregonstate.edu/
International: Degree, Exchange, Student Assistance Programs	International Education Office English Language Institute	University Plaza Suite 130 (1600 Western St.)	737-3006 or 737-2464 (INTO)	http://international.oregonstate.edu

Learning Centers	Center for Writing & Learning	123 Waldo Hall	737-5640	http://writingcenter.oregonstate.edu/
	Collaborative Learning Center (tutoring)	Varied Locations, see website	*Hint: This is an excellent resource*	https://library.oregonstate.edu/clc
	Math Learning Center	108 Kidder Hall	737-4946 737-0797	http://www.math.oregonstate.edu/mlc
Legal Assistance	ASOSU Legal Counsel	135 Memorial Union East	737-4165	http://leadership.oregonstate.edu/general-counsel https://asosu.oregonstate.edu/asosu/legalservices
Library	Valley Library	Jefferson Ave and Benton Dr.	737-3331	http://osulibrary.oregonstate.edu/
Loans & Grants	Financial Aid & Scholarships	218 Kerr Admin Bldg	737-2241	http://financialaid.oregonstate.edu/
Lost & Found	Campus	644 SW 13th	737-7240	http://surplus.oregonstate.edu/lost-and-found
Mailing Services	OSU Xpress Stop	On Campus: XPress Stop (MU 109) Off Campus: 4700 SW Research Way	737-4941	http://printmail.oregonstate.edu/
National Student Exchange Program	Career Services	University Plaza Suite 130 (1600 Western St.)	737-3006	http://international.oregonstate.edu/ois/exchange-student-application
Newspaper (Barometer/Orange News Media)		Student Experience Center	737-2233	http://sli.oregonstate.edu/omn/
Parking Permits	Parking Services	Adams Hall	737-2583	http://transportation.oregonstate.edu/parking/
Pharmacy	Student Health Services	110 Plageman Building	737-3491	http://studenthealth.oregonstate.edu/
Psychological Testing	Counseling & Psychological Services	500 Snell Hall	737-2131	https://counseling.oregonstate.edu/frequently-asked-questions
Public Safety	Security	200 Cascade Hall	737-3010 non-emergency 737-7000 emergency	http://oregonstate.edu/dept/security/
Recreation	Craft Center	Student Experience Center Basement	737-2937	https://sli.oregonstate.edu/craft
	Dixon recreation Center	26 th St across from IM fields	737-3748	https://recsports.oregonstate.edu/
	Indoor Climbing Center	Dixon Recreation Center	737-3748	https://recsports.oregonstate.edu/ali/indoor-climbing
	Intramural Sports	Dixon Rec Ctr	737-3748	https://recsports.oregonstate.edu/sports/intramural-sports
Residence Halls	Housing & Dining Services	Oxford House (9 th & Washington St)	767-4771	http://oregonstate.edu/uhds/
Residency Requirements	Admissions Office	104 Kerr Admin Bldg	737-4411	http://oregonstate.edu/admissions/
Safe Ride (hours on website)	Safe Transportation		737-5000	http://asosu.oregonstate.edu/saferide/
Scholarship Information	Financial Aid & Scholarships	218 Kerr Admin Bldg	737-2241	https://financialaid.oregonstate.edu/scholarships
Services for Students with Disabilities	Services for Students with Disabilities	A 200 Kerr Admin Bldg	737-4098	http://ds.oregonstate.edu/
Sexual Assault Support Services	Counseling & Psychological Services	500 Snell Hall	737-7604	http://counseling.oregonstate.edu/sass
Sororities	Inter-fraternity Council	306 Student Experience Center	737-5646	http://studentlife.oregonstate.edu/cfsl

Student Activities	Student Involvement	149 MU East	737-2101	https://stuorgs.oregonstate.edu/
Summer Classes	Summer Session	4943 The Valley Library	737-1470	http://oregonstate.edu/summer/
Telephone (room)	Telecommunications Office	8 Kerr Admin Bldg	737-3500	http://is.oregonstate.edu/telecom
Transfer Credit (as applies to major)	Consult Academic Advisor			
Transfer Credit (upon admission)	Admissions	104 Kerr Admin Bldg	737-4411	http://oregonstate.edu/admissions/
Tutoring	Consult Academic Advisor			http://success.oregonstate.edu/
Undecided Major	University Expl. Studies Program	102 Waldo Hall	737-8144	http://oregonstate.edu/uesp/
Withdrawal (classes & OSU)	Registrar's Windows	102 Kerr Admin Bldg	737-4331	http://oregonstate.edu/registrar/late-course-withdrawal
Women's Center	Women's Center	Benton Annex	737-3186	http://dce.oregonstate.edu/wc
Verification /Enrollment	Registrar's Office	102 Kerr Admin Bldg	737-4331	http://oregonstate.edu/registrar/verify-your-enrollment
Yearbook	Beaver Yearbook	231 Memorial Union East	737-3501	