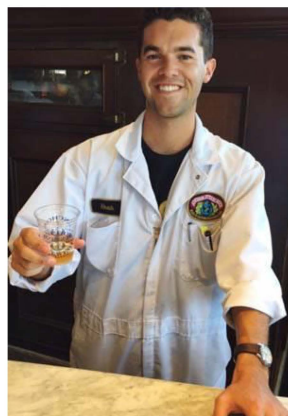


Graduate Handbook

2022-2023



Vision

OSU Food Science & Technology is a primary resource for food science knowledge, research, innovation, and talent in the Pacific Northwest and beyond.

Mission

Our mission is to provide relevant, cutting-edge training in food science and technology, and perform world-class research, within a supportive framework that values diversity. Specifically, we aim to:

- Develop knowledgeable critical thinkers who contribute to the food community through leadership, service, and life-long learning.
- Conduct relevant and impactful basic and applied research that proactively address challenges important to Oregon and the world.
- Lead and advocate for programs that promote growth for our industry partners and provide positive community impact.

This "Graduate Handbook" is intended to outline the requirements specific to the M.S. and Ph.D. degrees in Food Science and Technology (FST). Some of the information in this document may be found in further detail in the on-line "Graduate Catalog" <https://catalog.oregonstate.edu/college-departments/graduate-school/> Some information that is applicable to all University Graduate programs may be found only in the "Graduate Catalog" and is not repeated here. The on-line "OSU Graduate Student Success Guide" is a resource from the Graduate School to aid students in adjusting and complying with University requirements. The Food Science and Technology Program check-off sheets (found in the appendix to this handbook) are intended to aid students in complying with FST departmental requirements and deadlines.

Graduate students should obtain or review the following publications or resources:

1. *The Food Science and Technology "Graduate Handbook"* -
2. **VERY IMPORTANT TO USE** : OSU Graduate Student Success Guide
– on the web at http://oregonstate.edu/dept/grad_school/docs/student-success-guide.pdf
3. *The Oregon State University Graduate Catalog*. ONLY on the web at <https://catalog.oregonstate.edu/college-departments/graduate-school/>
4. Graduate Student Thesis Guide: <http://gradschool.oregonstate.edu/success/thesis-guide>

Students: Please note that it is *your responsibility* to adhere to the requirements and deadlines of the OSU Graduate School and the graduate program of the Department of Food Science and Technology.

The Food Science and Technology Graduate Committee:

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Administrative Staff & Professional Faculty

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Christina Hull (Purchasing)	541-737-6484	100 Wiegand	christina.hull@oregonstate.edu
Zak Wiegand (Pilot Plant Mgr)	541-737-8481	124B Wiegand	zak.wiegand@oregonstate.edu
Robin Frojen (Creamery Mgr)	541-737-3038	159A Withycombe	robin.frojen@oregonstate.edu
Jeff Clawson (Brewery Mgr)	541-737-6508	124A Wiegand	jeff.clawson@oregonstate.edu
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James Osborne (Pilot Winery Mgr)	541-737-1905	069 Withycombe	aubrey.dubois@oregonstate.edu

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PROCEDURES FOR ENTERING STUDENTS

Registration

Consult the current Schedule of Classes for information and detailed instructions on registration procedures.

<http://oregonstate.edu/registrar/registration>

Student Identification Card:

Until further notice, the ID Center, located in the Memorial Union room 103, will have limited service hours: 9:00am-3:00pm Monday - Friday. Please contact them by emailing the [ID Center](#) or calling 541-737-2493 if you have any questions.

Your OSU ID Card provides access to the following services. Different fees may apply based on student, employee or other card status. <http://fa.oregonstate.edu/business-affairs/idcenter>

Athletic Events
Dixon Recreation Center
Valley Library
Campus Dining and Coffee Shops*
Orange Cash
* with OSU Card Cash debit account

Student Involvement (class notes)
Corvallis Transit – ride free
Craft Center (supplies, fees)
(All students will be charged a one time mandatory fee of \$20 for your first card. The charge will appear on your billing statement. A replacement card costs \$25.)

Payment of Tuition and Fees

Refer to the fee payment section in the current schedule of classes: [Tuition and Fees Schedule](#) If appointed as a graduate assistant, per the appointment letter, tuition is waived and 90% of mandatory fees are remitted for the term of appointment. If on a fellowship tuition and fee remission will be specified in the letter of offer. To view your OSU student account go to: <http://mybill.oregonstate.edu>.

Payroll

If appointed as a Graduate Assistant (GA).you will receive an offer letter and hiring documents via DocuSign. Once complete, you will receive a welcome email with instructions to complete the I-9 form, obtaining an ID card, signing up for an ONID account, and other information.

If you are on a Fellowship the stipend schedule will be outlined in your letter of offer

<https://gradschool.oregonstate.edu/finance/graduate-fellowships-and-scholarships>

Insurance

Health insurance is mandatory for graduate assistants. All graduate assistants will be enrolled in the University's health plan for "employee only" coverage. You must submit the necessary paperwork within 30 days of employment start date to enroll additional dependents in health coverage. You may waive University-provided health insurance only if you have group coverage that is deemed comparable under the university plan (health, vision, and dental). Insurance for summer months is prepaid over the academic year. For additional information visit <https://hr.oregonstate.edu/graduate-student-insurance-plans/graduate-assistant-insurance-plan> send an email to gradhealth@oregonstate.edu or call 541-737-7568.

ONID Accounts

(Student ONID mailboxes are hosted at Google Apps)

Sign up for ONID [here](#) (OSU Network Identifier). You will be able to sign up for ONID once you are officially admitted as a Graduate Student

Once you have on ONID account, you will also receive an Exchange email address in the form of firstname.lastname@oregonstate.edu. All of your ONID email will be forwarded to that address.

To check webmail log into Exchange: <https://is.oregonstate.edu/exchangeonline/device-setup>

ONID accounts provides:

- E-mail addresses – your official University e-mail address (required in some classes)
- File storage (2 GB per user)
- Personal Web Pages
- UNIX Shell access

- Access to other services [OSU Online Services](#), wireless network (<http://oregonstate.edu/helpdocs/network/wireless>) , [ResNet for housing https://uhds.oregonstate.edu/resnet](https://uhds.oregonstate.edu/resnet) , [IS computer labs](#), [Interlibrary Loan](#), [Banner](#), [Canvas Login](#) ONID e-mails are more secure than personal e-mail addresses.
- ONID FAQ : <http://oregonstate.edu/helpdocs/view/faq-ONID>

Exchange accounts provides:

- Access to department room calendars
- Email account address that is professional
- Use of outlook to manage email
- ONID email forwards to Exchange

LEARNING GOALS FOR GRADUATES (LGGs) of OREGON STATE UNIVERSITY

<https://leadership.oregonstate.edu/provost/initiatives/learning-goals-graduates-lggs-oregon-state-university>

1. **Competency and Knowledge in Multiple Fields** – As an OSU graduate, you will show a depth of knowledge in one or more majors as it relates to its history, problems, strategic thinking processes and ways of knowing, and vocabulary. You will show a breadth of knowledge across the disciplines, which include the humanities and arts, science, social science and mathematics, from both technical and critical orientations.
2. **Critical Thinking** – As an OSU graduate, you will evaluate and synthesize information from multiple sources and perspectives to make informed decisions and solve problems; you will exhibit intellectual curiosity, including the disposition and ability to engage in evidence-based reason and critical thinking.
3. **Pluralism and Cultural Legacies** – As an OSU graduate, you will acquire knowledge and appreciation of the diversity of human cultural, historical and social experiences, and be able to reflect on how your individual life experience relates to the complex nature of human conditions in other places and times.
4. **Collaboration** – As an OSU graduate, you will develop the ability to be a positive contributor to situations requiring shared responsibility toward achieving a common goal.
5. **Social Responsibility and Sustainability** – As an OSU graduate, you will develop the capacity to construct an engaged, contributing life, and to engage in actions that reflect an understanding of the values of service, citizenship, social responsibility and demonstrate global competence by understanding the interdependent nature of local and global communities.
6. **Communication** – As an OSU graduate, you will be able to present and evaluate information, as well as to devise and exchange ideas clearly and effectively so that you can communicate with diverse audiences in a variety of situations.
7. **Self-Awareness and Life-Long Learning** – As an OSU graduate, you will develop awareness of and appreciation for your personal strengths, values, and challenges, and you will cultivate the ability to use that knowledge to guide your future learning and development.

(approved by Faculty Senate: 6/10/2010)

GENERAL RESPONSIBILITIES OF GRAD STUDENTS

Equipment and Facilities

Not all labs have equal equipment. Never assume it is acceptable to borrow something without asking. If you must borrow equipment, including from the **Pilot Plant**, **first ask Zak Wiegand** at Zak.Wiegand@oregonstate.edu , then make sure you return it to the same place you found it.

You must always check equipment out from the stockroom. If you need to borrow equipment from the stockroom, or use apparatus in the teaching labs (Rm. 126,130, and the Kjeldahl apparatus in Rm. 118), please contact **Dan Smith. Wiegand 128A**, dan.smith@oregonstate.edu

Building After Hours – Security

Obtain an After Hours Pass from Christina Hull in Wiegand 100 if it is necessary to be in a campus building after the regularly scheduled closure time for a special project or work. All students, including graduate students, must have in their possession a current University identification card and an After Hours Pass for the building and room in which they are working. All students, including graduate students, are required to carry and present University identification upon demand by a Public Safety Officer/Staff. If working after hours in a lab, be certain that labs, windows, and equipment are secure and locked before leaving.

Keys

Keys may be issued if your research lab is in Wiegand Hall. All keys must be turned in to your major advisor/professor at the completion of your program. Lost keys must be promptly reported to the Food Science and Technology main office. Key requests are made through Christina Hull in the FST office: christina.hull@oregonstate.edu. The major professor will email Christina to request keys. The student will receive an email when the keys are ready with directions on when and where they can be picked up.

Photocopying

A photocopy access code may be obtained from Christina Hull, christina.hull@oregonstate.edu. The access code must be authorized by your major professor. Please use it for academic / business purposes, not personal use.

Vehicle Use

To operate a motor pool vehicle, you must have a valid driver's license and be on department business under the direction of your faculty advisor. No unauthorized person (spouse, family, friend) may operate a state owned vehicle. The vehicle may not be used for personal use at any time. A driver [authorization form](#) must be completed prior to attaining a motor vehicle. Complete the form, sign and submit to Debby Yacas, deboray.yacas@oregonstate.edu or Wiegand 100.

If you need to drive a van for university business you must first pass the van safety test:

<https://transportation.oregonstate.edu/motorpool/van-safety>

GENERAL INFORMATION

Student Resources:

	Location	Telephone	Website
Graduate School	Heckart Lodge	737-4881	http://oregonstate.edu/dept/grad_school/
Registrar	Kerr Admin	737-4331	http://oregonstate.edu/registrar/
Scholarship Posts	Online	737-6486	https://scholarships.oregonstate.edu/scholardollars
Business Affairs	Kerr Admin 1 st floor	737-3031	http://oregonstate.edu/fa/businessaffairs/
Media Center	109 Kidder Hall	737-2121	https://is.oregonstate.edu/media-services
Writing Center	123 Waldo	737-5640	http://cwl.oregonstate.edu/
Career Center	Basement Kerr	737-4085	http://oregonstate.edu/career/
Counseling and Psychological Services	500 Snell Hall	737-2131	http://oregonstate.edu/counsel/
Student Health Services	Plageman Bldg	737-9355	http://studenthealth.oregonstate.edu/
Parking Permits	100 Adams Hall	737-2583	https://transportation.oregonstate.edu/parking
Saferide	25 Snell Hall, MU East	737-5000	http://asosu.oregonstate.edu/saferide/
Academic Calendar	Registrar		https://registrar.oregonstate.edu/osu-academic-calendar
Loans & Grants	218 Kerr Admin	737-2241	http://financialaid.oregonstate.edu/
Valley Library		737-3331	http://osulibrary.oregonstate.edu
Handshake	Career Center		https://oregonstate.joinhandshake.com/login
ROOTS	College of Ag	737-2443	https://support.roots.oregonstate.edu/

Minimum Grade Requirements

Graduate students must maintain satisfactory progress in course work and in thesis research. While advisors are urged to discuss performance in the laboratory and classroom with their students on a quarterly basis, progress is monitored formally on an annual basis by advisors who complete the "Graduate Student Review" form that both student and advisor sign.

Three rules apply to minimum grades: **1-** The department requires that graduate students obtain no less than a 'B-' on courses listed on their graduate programs, **2-** The department also requires that graduate students obtain no less than a 'B-' in core courses. It is the responsibility of graduate students to assure that their grades satisfy the above department requirements, **3-** The Graduate School requires that graduate students maintain satisfactory progress in their academic programs (see on-line Graduate Catalog for details). This means that all graduate students must maintain a minimum cumulative grade point average (GPA) of 3.0 or greater. A grade point average of 3.0 ('B') is required for all courses included in the graduate program of study. If a student fails to maintain this GPA, a letter of warning will be sent by the Graduate School. Students are expected to improve their grades the following quarter. Students who fail to do so are not automatically dismissed. Cases are handled on an individual basis upon consultation with the student, academic advisor, and department head. *The department has the option of not extending the assistantships of students who fail to maintain satisfactory progress.*

Special Note: Be sure to check "Academic Regulations" found in the "Schedule of Classes" for information on grading and taking courses. <https://catalog.oregonstate.edu/regulations/>

FST Policy on unsatisfactory graduate student grades:

- If a student's cumulative GPA drops below 3.0, the student is placed on "probation" meaning that the student has been warned that this is unsatisfactory academic progress, and if not corrected by the end of the following term will lead to dismissal from the FST program. Summer term is included only if courses are taken during the summer.*
- If a student's cumulative GPA remains below 3.0 at the end of the following term, the student will be dismissed, unless the major professor intercedes with a plan of action that is approved by the graduate committee. That plan cannot include taking letter-graded "blanket"- numbered courses — except FST 507/607 — to raise the GPA.*
- If a student's cumulative GPA remains below 3.0 at the end of the third term, the student is dismissed.*
- For PhD students, the Qualifying Exam must be passed successfully before the end of their 5th term. Pass/Fail will be determined by majority vote. If reexamination is granted the second attempt must be completed by the end of the 7th term. The exact date of the reexamination is to be determined by the examining committee.*

Unsatisfactory progress with the assigned research project (as determined by the thesis advisor) can result in non-renewal of the graduate research assistantship and a recommendation that the students terminate their FST graduate program.

Financial Support

Source of Funds:

Workload assigned to an employee under this article may or may not be separate from the academic expectations associated with thesis or dissertation research. This Agreement shall not in any way be construed as imposing a limit on the amount of academic work necessary for a student to make satisfactory academic progress toward their degree.

Graduate Research Assistants:

It is expected that GRAs on an appointment fulfill the following work hours per week as assigned by their graduate advisors.

.49 FTE -	20 hours per week	or	255 hours over 13 weeks
.45 FTE -	18 hours per week	or	234 hours over 13 weeks
.40 FTE -	16 hours per week	or	208 hours over 13 weeks
.35 FTE -	14 hours per week	or	208 hours over 13 weeks

All graduate assistants are required:

- To perform the full duties of service as determined by the department and major advisor
- To be enrolled full time, 16 credit hours for the fall, winter and spring terms, and (5 credits during the summer)
- To be making satisfactory progress toward an advanced degree
- To be responsible for understanding and satisfying all registration requirements that are outlined in the OSU Online Catalog.
- To be enrolled in University health insurance unless proof can be provided of other coverage.
- Leave Time/Vacation: Supervisors shall make reasonable efforts to allow Graduate Employees to arrange their work schedule allowing for fifteen (15) days leave over the academic year, taking into account the employee's academic program and the University's business needs. A request for leave shall be made in writing and sufficiently in advance of the schedule change to allow for planning for the absence. The decision on the request shall be made in writing and within a reasonable timeframe. Such requests shall not be unreasonably denied. This language does not limit a supervisor's ability to permit additional schedule adjustments

Time Limitation of Assistantships:

Graduate students are expected to complete the requirements for the M.S. Degree within about 2 years and the Ph.D. Degree within 3-4 years beyond completion of the M.S. Degree. Graduate Research Assistantships (GRA's) are awarded yearly, generally for 2 years (M.S.), or 3 years (Ph.D.). If a student does not complete degree requirements within the above mentioned time frames, further support is not guaranteed.

For additional information on graduate appointments, please refer to the on-line Graduate Catalog or consult with the Graduate Committee.

Hourly Employees:

Graduate students must get permission from their major professors before accepting hourly student work in the department. Total gross earnings from any State of Oregon payroll source for students on Graduate Assistant or hourly appointments cannot exceed the equivalent of a 0.49 appointment (0.49 FTE), a maximum of 20 hours per week while classes are in session.

Hourly student employees, those not on a graduate appointment, may work full time (40 hours per week) during term breaks if enrolled in 3 credits or less.

Enrollment Requirement

Graduate assistants are required to enroll for and maintain a minimum of twelve (12) graduate credit hours toward the degree throughout each academic term. FST students are encouraged to enroll for (16) credits for fall, winter and spring terms.

Ecampus Classes

If your tuition is being covered by your GRA appointment, Ecampus courses are not included by default and will incur additional cost. Because your major professor is responsible for these costs, ***it is critical that you discuss Ecampus courses with your major professor prior to registration.***

Summer Session Enrollment

If the graduate assistantship extends through summer session, graduate assistants may meet the criteria for tuition remission when enrolled for a minimum of three (3) credit hours toward the degree. **However, if a graduate employee wishes to retain their FICA student exemption (Social Security and Medicare tax exemption) they must enroll for a minimum of five (5) credit hours during summer session. Registration for any additional credits beyond 5 need to be in consultation with your PI.**

Continuous Enrollment Policy – A graduate student using space and facilities or studying under supervision of a major professor must register for a minimum of 3 credit hours even though the student may have completed all coursework work. *To remain in FICA tax exemption status registration for five (5) credits is required.*

<https://gradschool.oregonstate.edu/help/faq/303>, <https://gradschool.oregonstate.edu/progress/deadlines>

Leave of Absence

Leave of absence forms must be received by the Graduate School (15) fifteen days prior to the start of the term in which the leave is to begin. <https://gradschool.oregonstate.edu/formlink/14711>

(1) Regular Leave of Absence – granted in cases where student demonstrates good cause (illness, temporary departure from the university for employment, family issues, financial need, personal circumstances). Must indicate reason for on-leave status. **Master's students** may request a maximum of three academic terms of regular on-leave status during the course of study for the degree. **Doctoral students** may request a maximum of three academic terms of regular on-leave status prior to advancement to candidacy, and they may apply for a maximum of three academic terms of regular on-leave status after advancement to candidacy.

(2) Planned Leave of Absence – may be granted for a maximum of nine terms, excluding summer session to students enrolled in programs for which planned leave has been approved by the Graduate School. Time spent in planned leave will be included in all time limits pertaining to the student's degree program.

<https://gradschool.oregonstate.edu/formlink/14711>

(3) Family and Medical Leave. This leave unpaid leave and is for 12 continuous weeks that may span multiple terms and must meet FMLA leave requirements as determined by the Office of Human Resources.

See policy <https://hr.oregonstate.edu/benefits/leaves/family-and-medical-leave-act-fmla/graduate-assistantships-family-medical-leave>

Remote Participation

Standard Policy: FST graduate committee recommends that both MS and Ph.D. candidates be physically present at the meeting for their final thesis defense*, qualifying,* and preliminary* exams (Ph.D.). However, students may submit a petition for an exception with approval by the graduate committee.

***Current/COVID Policy:** Due to concerns about COVID transmission, current departmental policy provides the option for a masked, in-person defense (with no more than 10 participants) or a Zoom defense. Students should consult with their major advisor prior to determining the most appropriate modality.

Departmental Committees

Students may be invited and/or elected to participate on departmental committees including: community, diversity and inclusion, and the promotion and tenure student evaluation committee. Please contact the committee lead if you are interested in serving on a committee. To see a list of department committees go to the FST resources page:

<https://foodsci.oregonstate.edu/foodsci/internal-fst>

Graduate Committee

The department graduate committee formulates the basic policy, procedures, and requirements for all graduate work in the department within the general authority granted by the department and the Graduate School. The committee establishes the specific rules and regulations recruits new graduate students, manages student petitions, and coordinates and approves other work related to graduate study such as graduate teaching assignments. The graduate committee consists of five faculty and the department academic programs coordinator.

Graduate Student Representatives:

Two graduate representatives are elected by the graduate student body each year to represent graduate student interests. The graduate student representatives serve as advocates for fellow FST graduate students, is a peer resource of information concerning graduate student life in the department, and helps to resolve questions and problems of fellow students. The graduate student representatives attend faculty meetings, contribute to building community, organize graduate student meetings, attend events as a representative of the department, and assist with graduate orientation event the beginning of fall term. The elected representatives serve for one year, winter through fall terms.

Thesis Submission Deadline

The final, corrected, and signed copy of your thesis or dissertation must be submitted to the Graduate School within six weeks after your final oral examination (defense) or before the first day of the following term, whichever comes first. **Note: Continuous Enrollment Policy Applies.** You must be registered for a minimum of three graduate credits until all degree requirements are completed. **To avoid registering for the term following your defense, submit the final corrected and signed thesis or dissertation to the Graduate School before the first day of the following term in which you defend.** For details on this policy see "Continuous Enrollment, I. Minimum Registration" in the Graduate catalog <https://catalog.oregonstate.edu/college-departments/graduate-school/>

Timelines for Defending Late In a Term

- 1- Students can defend as late in the term as the Friday before classes start the following term. Between summer and fall, students can defend up to the Friday before fall term classes begin (with a summer registration).
- 2- You have only 10 days to submit your thesis copies to the Grad School (if you are not continuing on from MS to PhD).
- 3- You will have an official graduation date into the following term.

Teaching Assistant (TA) requirement for MS and PhD Students in Food Science and Technology

PhD students are required to serve as a TA for four (4) credits. MS students are required to serve as a TA for two (2) credits. While the students serve as a TA, he or she will register for the Teaching Practicum class (FST 509) and will receive credits with a letter grade.

Each instructor will meet with the course TA before the start of the term to draft a written statement detailing specific expectations based on the following TA activities:

Teaching assistants are allowed to use Wiegand 108B if you need a quiet area to grade or to meet with students one on one. To reserve room 108B, open the room schedule using Outlook Calendar and type in WGND 108B

- Student contact hours
 - a. Formal –present labs/lectures
 - b. Informal – work with individuals or groups in lab
- 2. Participate in designing specific lab exercise (s)
- 3. Grade lab reports and / or quizzes
- 4. Lab preparation and/or clean up

The TA will be graded according to the following formula:

- A Exceeds minimum requirements in all four components
- B Fulfills all minimum requirements
- C Fails to meet minimum requirements
- F Does not participate in lab (without instructor's permission to be excused)

Academic Deadlines

Master's Degree

All master's degree requirements must be met within 7 years. Most FST master's students complete their degree within 2 years.

Develop a [Program of Study](#) *early in your program*. This is your plan for completing your degree. Speak with your advisor, department chair, or departmental graduate coordinator for guidance on completing this requirement.

By the end of the fifth term of your program:

- Form Thesis Committee including a [Graduate Council Representative](#)
- Have your program meeting with your full committee present
- **Submit** your approved [program of study](#) to the Graduate School

At least 2 weeks before your Final Oral Examination:

- Submit a [diploma application](#) *except for spring, see below for commencement deadlines
- Use online form to schedule your [final oral examination](#).
- Distribute a defendable copy of your thesis to your committee.
- Deliver or email pretext pages of your thesis to the [graduate school](#). [Get the pre-text pages template and thesis formatting guide.](#)

Upload the final copy of your thesis (if required for your degree) to [ScholarsArchive](#) within 6 weeks after your Exam or before the first day of the following term, *whichever comes first*, to avoid having to register for a minimum of three graduate credits the next term. Read more about the continuous enrollment policy in the [Oregon State Grad Policies](#)

Doctoral Degree

Doctoral students beginning their program in fall 2016, or later, have 9 years to complete all work, including course work, thesis (if required) and all examinations. Request an extension of this time limit by submitting a petition to the Graduate School.

Qualifying Exam

For PhD students, the Qualifying Exam must be passed successfully before the end of the 5th term. Pass/Fail will be determined by majority vote. If reexamination is granted, the second attempt must be completed by the end of the 7th term. The exact date of the reexamination is to be determined by the examining committee. The Qualifying examining committee will be formed by the Graduate Committee Co-Chair (Dr. Curtin)

By the end of the fifth term of your program:

- Form Thesis Committee including a [Graduate Council Representative](#)
- Have your program meeting with your full committee present
- Submit your approved [program of study](#) to the Graduate School

Preliminary Oral Exam

For PhD students, the Preliminary Oral Exam must be passed successfully before the end of the 9th term. Pass/Fail will be determined by committee vote. Schedule your Preliminary Oral Exam at least 2 weeks in advance by submitting the [Exam Scheduling Form](#). You must have an approved program of study on file with the Graduate School in order to schedule your Preliminary Oral Exam.

Final Oral Defense of Dissertation

- At least 2 weeks before your Final Oral Defense of Dissertation:
 - Submit a [diploma application](#) *except for spring, see below for commencement deadlines

- Schedule your Exam by submitting the [online Exam Scheduling Form](#) to the Graduate School
- Deliver or [email pretext pages](#) of your thesis to the graduate school. [Get the pre-text pages template and thesis formatting guide.](#)
- Give dissertation to your whole committee

Thesis Submission

A final and corrected copy of your thesis or dissertation must be uploaded to [ScholarsArchive](#) within 6 weeks after your Exam or before the first day of the following term, *whichever comes first*, to avoid having to register for a minimum of three graduate credits the next term.

Academic Honesty

Academic dishonesty is prohibited and considered a violation of the Student Conduct Regulations. It includes cheating, the intentional use of unauthorized materials, information, or study aids; fabrication, assisting in dishonesty or tampering (intentionally or knowingly helping or attempting to help another commit an act of dishonesty or tampering with evaluation instruments and documents); and plagiarism, intentionally or knowingly representing the words or ideas of another person's as one's own. (Taken from Student Conduct and Community Standards website.)

Demonstrate honesty and integrity in all aspects of your academic work.

Ethics Requirement

The Graduate School has implemented ethics requirements that are to be carried out at the department level. The purpose is to train graduate students to conduct scholarly or professional activities in an ethical manner. Proof of the training must be shown on the program of study for both MS and PhD levels.

Responsible conduct of research includes nine areas where ethical issues arise: mentoring, data management, research misconduct, human participants, animal subjects, authorship and allocation of credit, intellectual property, conflicts of interest, collaborative science.

These are current options for fulfilling the ethics requirement. It is strongly recommended to take one of the two following classes:

1-Enroll in GRAD 520 Responsible Conduct of Research (2 credits, taught fall, winter, spring each year).

2-Enroll in PHL 547 Research Ethics (3 credits, taught every other spring)

3-For students involved in human or animal research, CITI modules, through the National Institute of Health (NIH) are an alternative option, per approval by major advisor. The formal program and number of modules will be designed by the student's advisor, and students will need to file a completion report.

<http://oregonstate.edu/research/ori/responsible-conduct-research>

<https://about.citiprogram.org/en/series/responsible-conduct-of-research-rcr/>

<https://research.oregonstate.edu/coi/frequently-asked-questions-faqs/how-do-i-complete-citi-training-course-conflicts-interest>

MS IN FOOD SCIENCE & TECHNOLOGY

All Master's students must:

- 1- Conduct research
- 2- Demonstrate mastery of subject material
- 3- Be able to conduct scholarly or professional activities in an ethical manner.

The Program for a Master's Degree is developed under the guidance of the major professor (and minor professor when a minor is included), and signed by those professors and the department head before being filed with the Graduate School.

Students must prepare a defined program of study and submit to their major professor and the Thesis Committee for review by the end of the fifth quarter of enrollment. "Master's Program" form and forms for changes to this program are available online <https://gradschool.oregonstate.edu/sites/gradschool.oregonstate.edu/files/pfc.pdf>

A minimum of 45 credits is required for the Master of Science. Thirty credits must be earned at OSU after admission as a graduate student. A maximum of 15 hours of graduate coursework may be transferred into a 45 hour program.

"50% Rule"—

All graduate programs of study submitted to the Graduate School must consist of 50% graduate stand-alone courses (no matter the number of credits listed on program). All graduate credits (other than the 500 component of slash courses), including thesis, dissertation, research, internship, seminar, reading and conference, and projects are considered stand-alone credits.

Master Program Requirements

	Maximum allowed thesis credits *	Maximum allowed non- thesis blanket- numbered courses **	Minimum Remaining coursework credits needed ***	Total credits required for degree
M.S.	12	9	24	45

Blanket numbered credits refer to research (501), seminar (507), reading and conference (505) and teaching practicum (509).

* While no more than 12 thesis credits can be listed on a program, students typically register for far more thesis credits over the course of their graduate career. (Thesis credits should reflect thesis work.)

**More blanket-numbered credits can be taken but only 9 credits can be listed. (Reflects activity other than thesis.)

***These courses must include a minimum of 2 "stand-alone" graduate credits. Note that thesis and graduate level blanket-numbered courses are already considered "stand alone" graduate credit.

Course Work Requirements

The following courses constitute a core and must be taken and passed with a grade of B- or better by all graduate students (i.e. not as pass/fail). Equivalent courses taken at Oregon State University or elsewhere will be considered by the Graduate Committee as possible alternatives on a case-by-case basis (petition). The credit hours required in the major and the minor fields are stated in the on-line Graduate Catalog <https://catalog.oregonstate.edu/college-departments/graduate-school/>

Two hours of seminar (FST 507) are required for the M.S. degree. Students registering for FST 503 must be working on thesis research under the supervision of a major professor.

Core Curriculum:

a) Food Microbiology (Beginning AY 22-23):

One of the following lectures:

MB 540 Food Microbiology (3 credits) Winter

FST 599 SS/Food Safety and Sanitation (3 credits) Spring

AND

One of the following laboratory classes:

MB 541 Food Microbiology Laboratory (2 credits) Winter

FST 599 SS/Microbial Methods for Food Analysis (3 credits) Summer

b) Introduction to Food Engineering Principles:

One of the following lectures:

FST572 Food engineering and processing 1 (4 credits)

FST595 Food manufacturing and packaging (4 credits)

c) **Food Chemistry** – any **one** of the following FST Food Chemistry offerings:

FST 522 Food Chemistry Fundamentals (4 credits) Fall

FST 523 Food Analysis (4 credits) Winter

FST 525 Food Systems Chemistry (4 credits) Spring

FST 628 Flavor Chemistry (3 credits)

FST 639 Food Polymer Science (3 credits)*

FST 641 Processing Wheat and Other Small Grains: A Molecular View (3 credits)*

* FST 628, FST 639, and FST 641 will be taught alternate years

Students may submit a petition to substitute another 6XX course in lieu of one of the required 6XX FST courses.

Graduate Student Seminar Requirements (FST 507)

The winter term offering of FST 507 will be instructional, focusing on methods/approaches for giving effective presentations. MS students are required to enroll in one winter term offering of FST 507 during their program. Students in the winter term course will be assigned a letter grade.

The spring term offering of the course will be a series of “departmental seminars”, typically 50 minutes per PhD seminar, 25 minutes per MS seminar. The instructor for the spring term class will schedule the seminars and grade the individual presenters; but students presenting the seminars will prepare them in consultation with their major advisor. Students presenting seminars must be physically present at the OSU-Corvallis campus. MS and PhD students are required to present one “departmental seminar” as part of their program usually **the last spring term of their program**. For the spring offering of the course, students presenting a departmental seminar will receive a letter grade.

All MS students are required to enroll in all of the spring offerings of FST 507. Students may attend seminars using remote access. Students enrolled in the spring course but not presenting a public seminar will enroll in the P/N grading mode. Grading for the latter will be based on attendance (≥80% attendance =P). All persons attending spring term departmental seminars will be encouraged to politely, but thoroughly, question speakers in order to foster a learning environment.

Publication requirement:

It is required that students will have prepared and submitted a first author manuscript, based on their thesis work for publication, by the time of their defense.

FST Departmental M.S. Check-off Form

A file copy of the departmental [MS Check-Off Sheet](#) is a permanent part of the student's file. As items are completed, the official file copy is updated. Please bring completed form to your final exam.

Petition to waive core course requirement:

Students may petition the graduate committee to waive core course requirements if equivalent courses have been taken elsewhere. Petitions must provide 1) **a statement indicating the course to be waived**; 2) **a syllabus or course outline** for the substitute course; and 3) **a transcript** for the substitute course.

- Grades obtained in the proposed substitute courses can be no less than a 'B -'.
- Waived courses will not count toward the required 45 credits for completion
- Submit the petition to Deborah Gould, Wiegand 100, to be distributed to the graduate committee chairs.

Minor:

A minor is optional, but if a minor is declared, approximately two-thirds of the coursework (30 graduate credits) should be listed in the major field and one third (15 graduate credits) in the minor field. In such cases, the student's thesis committee must include a member from the minor department.

The purpose of the minor is to provide supporting courses in basic and applied science for the thesis research in Food Science. Examples in the basic sciences include chemistry, biochemistry, and microbiology. In the applied sciences, horticulture and bio-resource engineering are sometimes chosen. When minor courses are taken in several departments or areas, the minor is designated as an integrated minor.

Thesis

A thesis, representing the results of the student's independent research is required. Upload one PDF to [ScholarsArchive](https://scholarsarchive.oregonstate.edu/) and submit a signed approval page and title page to the Graduate School. Information on the prescribed style of your thesis may be found on the Graduate School website under Graduate Students Success Guide, "Thesis Guide" <https://gradschool.oregonstate.edu/progress/thesis-guide>.

Thesis Committee

Your thesis committee serves as your final examining committee. The thesis committee is nominated by the student's Major Professor, subject to the approval of the Dean of the Graduate School, and consists of at least **four** members of the University Graduate faculty: the Major Professor, an additional faculty member from Food Science and Technology, one from the minor field (if applicable), and one from a field not directly connected with the candidate's studies and appointed by the Graduate School as the Graduate Council Representative. When a minor is not included, the fourth member may be from the graduate faculty at large. The Graduate School will provide an online list of potential Graduate Council Representatives. <http://gradschool.oregonstate.edu/success/graduate-committee> Item #3.

Program Meeting

Prior to the completion of your 5th term, a full program committee meeting should be held, for the purpose of discussing and approving your program of study. Shortly after the committee meeting, the Program of Study should be submitted to the Graduate School. You may also take advantage of this meeting to provide a brief presentation of your research to date, both as practice for your defense and to gain input from your committee members.

Final Examination

An oral thesis defense (public defense and closed oral examination by the Thesis Committee) should be scheduled for two hours and is required for an M.S. degree in Food Science and Technology. Students are required to schedule the final examination through the Graduate School two weeks prior to the defense. https://gradschool.oregonstate.edu/sites/gradschool.oregonstate.edu/files/2021-09/exam_scheduling_v2.9.pdf. Copies of the thesis should be submitted to committee members at least two weeks prior to the exam. The thesis committee will examine the student, deliberate, and vote in private after the oral examination has concluded. If more than one negative vote is recorded, the candidate will have failed the examination. Reexamination will take place in consultation with the thesis committee.

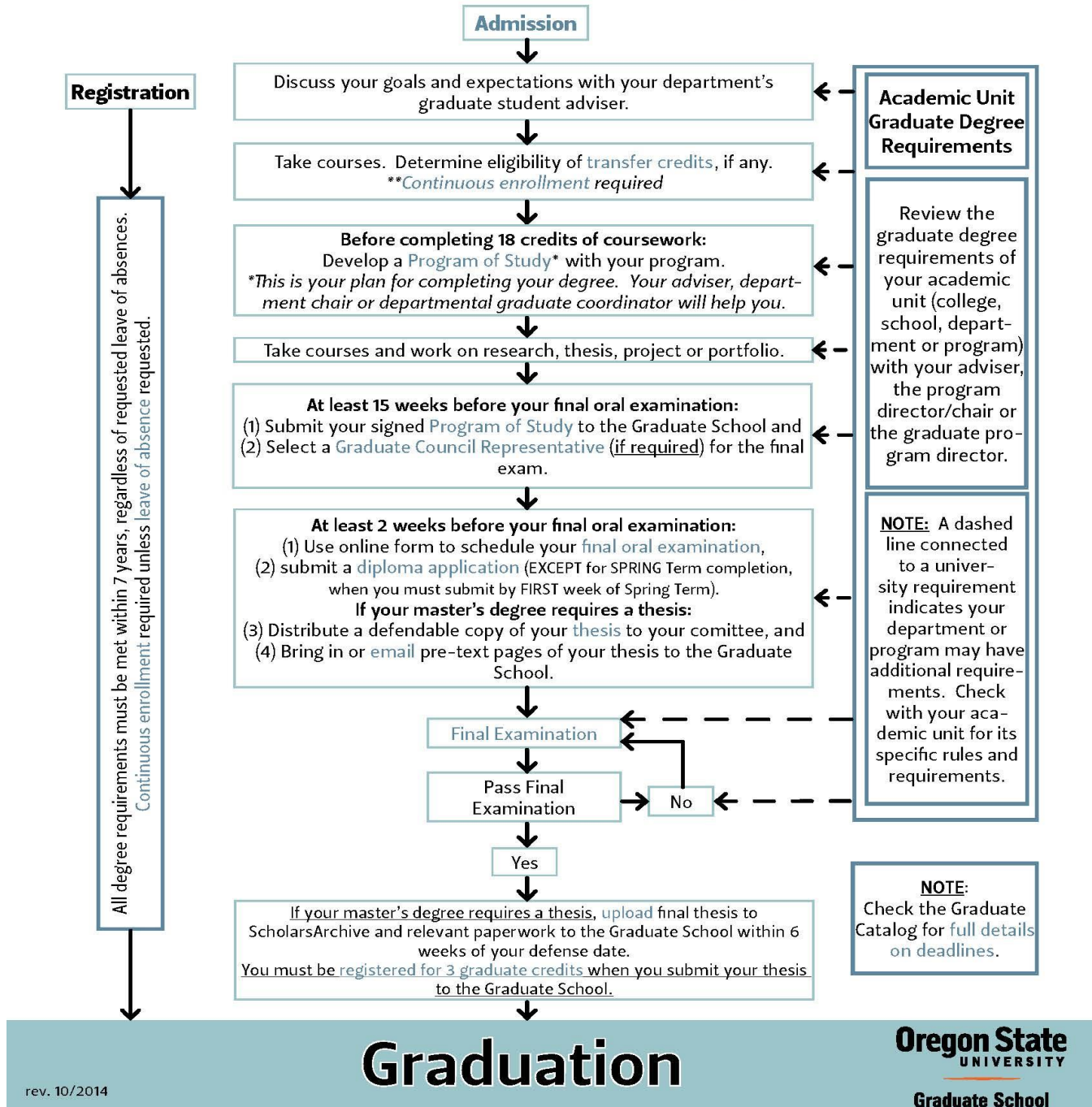
Limitations

According to Graduate School regulations, all work toward a Master's Degree, including transferred credits, coursework, thesis, and all examinations, must be completed within seven years.

Duration of Graduate Program

- Graduate Research Assistants (GRAs) and Graduate Fellows are expected to finish their programs within a reasonable timeline (typically 8 terms for MS and 16 terms for PhD). Terms do not need to be consecutive.
- By the end of the first term, Major Advisor and GRA/Graduate Fellow should discuss the duration of the graduate program, expected research progress and consequences of not making progress in research. The agreement should be documented and signed by the Major Advisor and GRA/Graduate Fellow.

Flow Chart for Master's Degree Completion



*This flowchart reflects the minimum requirements to comply with the Graduate School's policies. Where more stringent, FST Graduate Program requirements take priority.

Ph.D. IN FOOD SCIENCE & TECHNOLOGY

A Ph.D. degree with a major in Food Science and Technology prepares the student for research in a specialized field of study. A Master's degree in Food Science or related field (e.g., Chemistry, Engineering, Microbiology, Nutrition) is required for students intending to pursue the PhD degree.

Students currently in an M.S. program may, on occasion, decide that they wish to pursue a Ph. D. degree in Food Science. Those students will need to complete the M.S. degree and reapply through the Grad School application process to be admitted to the Ph.D. program.

Doctoral Program

The Program for a Doctoral Degree is developed under the guidance of the major professor (and minor professor when a minor is included), and signed by those professors and the department chair before being filed with the Graduate School. "Proposed Doctoral Program" forms are available on the web at <http://gradschool.oregonstate.edu/forms/#program> . A minimum of 36 hours of graduate work must be earned in residence (at OSU).

The program of study should be filed with the Graduate School one full term prior to a student's defense. For FST requirements, students must prepare a defined program of study and submit to their major professor for review by the end of the third quarter of enrollment.

"50% Rule"—

All graduate student programs of study submitted to the Graduate School must consist of 50% graduate stand-alone courses (no matter how many credits are listed on your program). All graduate credits other than the 500 or 600 component of slash courses, including thesis, dissertation, research, internship, seminar, reading and conference, and projects are considered graduate stand-alone credits.

The table below illustrates a program where the maximum allowable thesis credits and blanket-numbered course credits are used.

Doctoral Program Requirements

	Minimum allowed thesis credits (No maximum)	Maximum allowed non-thesis blanket-numbered courses *	Total credits required for degree
Ph.D.	36	15	108

* More blanket-numbered credits can be taken but only 15 non-thesis can be listed.

Blanket numbered credits refer to research (601), seminar (607), reading and conference (605) and (509) teaching practicum.

Coursework Requirements

The following courses constitute a core and must be taken and passed with a grade of B- or better by all graduate students (i.e. not as pass/fail). Equivalent courses taken at Oregon State University or elsewhere will be considered by the Graduate Committee as possible alternatives on a case-by-case basis. Two hours of seminar (FST 607) are required for the Ph.D. degree. Graduate students are expected to attend and participate in seminars, when offered.

Core Curriculum:

a) **Food Microbiology** (Beginning AY 22-23):

One of the following lectures:

MB 540 Food Microbiology (3 credits) Winter

FST 599 SS/Food Safety and Sanitation (3 credits) Spring

AND

One of the following laboratory classes:

MB 541 Food Microbiology Laboratory (2 credits) Winter
 FST 599 SS/Microbial Methods for Food Analysis (3 credits) Summer

b) Introduction to Food Engineering Principles:

One of the following lectures:

FST572 Food engineering and processing 1 (4 credits)

FST595 Food manufacturing and packaging (4 credits)

c) Food Chemistry – any **one of the following FST Food Chemistry offerings:**

FST 522 Food Chemistry Fundamentals (4 credits) Fall

FST 523 Food Analysis (4 credits) Winter

FST 525 Food Systems Chemistry (4 credits) Spring

FST 628 Flavor Chemistry (3 credits)

FST 639 Food Polymer Science (3 credits)*

FST 641 Processing Wheat and Other Small Grains: A Molecular View (3 credits)*

* FST 628, FST 639, and FST 641 will be taught alternate years

Students may submit a petition to substitute another 6XX course in lieu of one of the required 6XX FST courses.

Graduate Student Seminar Requirements (FST 607)

The winter term offering of FST 607 will be instructional, focusing on methods/approaches for giving effective presentations. PhD students are required to enroll in one winter term offering of FST 607 during their program. Students in the winter term course will be assigned a letter grade.

The spring term offering of the course will be a series of “departmental seminars”, typically 50 minutes per PhD seminar, 25 minutes per MS seminar. The instructor for the spring term class will schedule the seminars and grade the individual presenters; but students presenting the seminars will prepare them in consultation with their major advisor. Students presenting seminars must be physically present at the OSU-Corvallis campus. MS and PhD students are required to present one “departmental seminar” as part of their program usually **the last spring term of their program**. For the spring offering of the course, students presenting a departmental seminar will receive a letter grade.

All PhD students are required to enroll in all of the spring offerings of FST 607. Students may attend seminars using remote access. Students enrolled in the spring course but not presenting a public seminar will enroll in the P/N grading mode. Grading for the latter will be based on attendance ($\geq 80\%$ attendance = P). All persons attending spring term departmental seminars will be encouraged to politely, but thoroughly, question speakers in order to foster a learning environment.

Publication Requirement (will apply to students admitted winter 2021 and beyond):

It is required that students will have at least 2 first author manuscripts, based on their thesis work, accepted for publication by the time of their defense.

FST Departmental Ph.D. Check-off Form

A file copy of the departmental [PhD Check-Off Form](#) is a permanent part of the student's file. As items are completed, the official file copy is updated. Please bring completed form to your final exam.

Petition to waive core course requirement:

Students may petition the graduate committee, by completing a [Course Waiver Form](#), to waive core course requirements if equivalent courses have been taken elsewhere. Petitions must provide 1) **a statement indicating the course to be waived**; 2) **a syllabus or course outline** for the substitute course; and 3) **a transcript** for the substitute course.

- Grades obtained in the proposed substitute courses can be no less than a 'B -'.
- Waived courses will not count toward the required 108 credits for completion
- Submit to Deborah Gould, Wiegand 100.

Minor or Minors:

A minor is optional, but if declared, it must consist of at least 18 credits (15 credits for an integrated minor) and the committee must include a member from the minor department. All committee members must be on the graduate faculty with appropriate authorization to serve on the student's committee.

Minor fields in basic and applied sciences for a Ph.D. program are meant to support the thesis research. Three types of minors are available:

1. One minor - The student wants to become highly specialized in a particular field and declares one department as a minor. Two representatives from the minor department serve on the doctoral committee.
2. Two minors - The student wants a broader training in two fields but may or may not want to become highly specialized in either field.
3. Integrated minor - The student wants a background in several different subject areas. Two of the most emphasized departments would be represented on the doctoral committee through appropriate faculty representation.

Thesis Committee

The student and his/her major professor formulate the Ph.D. study program that is to be submitted to the student's thesis committee for approval. This committee consists of **five** members including the Major Professor (Committee Chair), at least one other faculty member from Food Science and Technology, and two faculty members from the minor or supporting fields. If no minor is declared, the committee members can be filled with graduate faculty members from any department. A representative of the Graduate Council is appointed by the Dean of the Graduate School as an additional committee member.

The student will make arrangements for a meeting of the thesis committee, generally during the third term. At least one week in advance of that meeting, the student will submit copies of the proposed program and transcripts of undergraduate and graduate studies to each member of the committee. The program must then be approved by the department head and the "Proposed Doctoral Program" form must be filed with the Graduate School (with copies to the department head and to the academic program coordinator). Any modifications of the program must be approved by the student's thesis committee. This committee conducts both the oral prelim and final exam.

Qualifying Exam

The purpose of the qualifying exam is to evaluate a student's qualifications and potential for success in the Ph.D. program. Qualifications include competence in basic and applied sciences, ability to discuss and evaluate scientific research relevant to Food Science, ability to formulate and express ideas, ability to critically evaluate the food science literature, and ability to speculate intelligently.

The exam will be oral and will last no more than two hours. The student will begin the exam by giving a 15-20 minute PowerPoint presentation critically evaluating a research paper from the relevant literature. **The student will provide the examining committee with two papers of his or her choice at least two weeks before the exam. The committee will then choose one of the two papers suggested by the student and will inform the student of its choice no later than one week before the exam.** The oral presentation will be followed by an open-ended discussion, **not necessarily limited to the paper.**

Students should address the following questions:

Why did you choose the paper and why is it important? What was the objective? What were the scientific methodologies and procedures, and were they adequate? What were the important results and conclusions? What future experiments would you recommend? What did you learn that can be applied to your own research interests?

While the paper will help the student prepare for the examination and will help the committee prepare questions, it is really meant to serve as a **catalyst** for a **broadier discussion** about how one asks scientific questions, designs experiments, and evaluates data. Thus, questions and study should not focus exclusively on the paper.

Initiating the process- With the major professor's written approval, students will inform the Graduate Committee in writing of their wish to take the qualifying exam. The Graduate Committee will then form an examining committee. The student will be responsible for scheduling the exam at a time agreeable to all committee members. Students will be required to take the qualifying exam during their first 12 months in the program. In order to maintain satisfactory academic progress, students will be required to pass the exam no later than the end of their 5th quarter, with the summer counting

as one quarter. A student beginning the Ph.D. program in the fall, for example, would have to pass the exam before the end of the fall quarter of the following year. Students will not be able to schedule the oral preliminary examinations until the qualifying exam has been passed.

The examining committee- The examining committee will consist of two members of the department graduate committee and three other FST faculty members, chosen on a rotating basis, but excluding the major professor. One of the graduate committee members will serve as chair of the examining committee. "Rotating basis" shall mean that graduate faculty will be asked in alphabetical order of last names. Prior to the examination, the chair will assure that a committee is formed, that a date is set, that the student has provided two possible papers, and that the committee has informed the student of its choice of paper at least a week prior to the exam. During the examination, the chair will serve as a neutral moderator to assure that the examination protocol was followed correctly, questioning is fair and that the student is given adequate time to answer questions. If the student appears excessively nervous, or if other factors preclude a fair examination, the chair may suggest recessing and rescheduling the examination – to be decided by majority vote of the committee. Following the examination, the chair will lead discussion of the evaluation of the student's performance, call for a vote, and inform the student of the results. The chair will take part in the voting. The chair will document the results in writing, copies of which will be provided to the student and major professor. One copy will be placed in the student's file.

Evaluation criteria – Evaluation criteria include

- General Reasoning (ability to logically progress from "point a" to "point b")
- Experimental design (an understanding of the "scientific method")
- Scientific smarts (ability to apply basic scientific principles to research)

Pass/fail will be determined by majority vote. If the candidate fails the examination, reexamination will be at the discretion of the examining committee. If a reexamination is granted, the second attempt at the exam must be completed by the end of the 7th term. The exact date of the reexamination is to be determined by the examining committee.

Oral Preliminary Examination

The purpose of the preliminary oral examination is *to determine the student's understanding of their research area and how that fits within the broader field of food science and technology, and also to assess the student's capability for research.* The oral examination should be passed before the end of the 9th term. **It is the student's responsibility to schedule the preliminary oral examination through the graduate school.**

The preliminary oral examination is scheduled for two hours and is conducted by the student's doctoral thesis committee. Prior to the oral exam, the student will **write a research proposal** based upon either **his/her thesis project** or **a related topic**, according to prior consultation with the student's advisor. The suggested formats for the proposal include **USDA Graduate and Postgraduate Fellowship Grant** or **NIH F32 Postdoctoral Fellowship**. The student must consult with their primary advisor as well as their doctoral committee, as needed, to finalize choice of format. The student should provide the written proposal to the committee at least two weeks before the exam.

A research proposal should follow specific guidelines and page limits for the chosen format. If a student follows **USDA Graduate and Postgraduate Fellowship grant**, the proposal should include 1) a project summary/abstract (250 words max), 2) a project narrative (16-20 pages, double spaced), and 3) a list of references. If a student follows **NIH F32 Postdoctoral Fellowship**, the proposal should include 1) a project summary/abstract (30 lines of text), 2) a project narrative (3 sentences), 3) specific aims (1 page, single spaced), 4) research strategy (5-6 pages, single spaced), and 4) a list of references.

Regardless of format, a research proposal must include as a minimum: 1) project title, 2) overall and specific research objectives, 3) rational and significance, 4) research approaches, 5) expected outcomes, 6) pitfalls that may be encountered and plan to resolve them, 7) timeline, and 8) references.

The oral examination *should cover the student's knowledge in his or her research area and how that fits within the broader field of food science and technology. The exam may cover the student's written research proposal, as well as the progress on student's thesis research. No more than one-half the time should be devoted to specific aspects of the proposal.* A student must contact members of their committee to schedule the time and place, and report this action to the Graduate School **at least two weeks before the examination.**

If more than one negative vote is recorded by the doctoral committee, the candidate will have failed the examination and may not repeat the examination until at least three months have elapsed. No more than two re-examinations are permitted by the

Graduate School. When scheduling, students should be aware that the Preliminary Examination and Final Thesis Defense cannot be taken during the same term.

Thesis

The Ph.D. thesis must embody the results of research and give evidence of originality and ability in independent investigation. The thesis must be a real contribution to knowledge, based on the candidate's own investigation. Some costs involved in the production of the thesis may be borne by the related grant or project funds or by the department as described for the M.S. thesis.

Corrections and revisions suggested by the committee members at the time of the examination will be made on the final draft. The Graduate Council Representative will not sign the examination card for acceptance of the thesis until an acceptable final copy is presented.

Final Examination

After completion of all work required by the program, the student must pass a final doctoral examination which includes a public thesis defense and a closed oral examination. The student must be registered during the quarter in which he or she will take the final examination. Students are required to schedule the final exam (i.e. defense) **two weeks in advance** through the Graduate School (Event Scheduling Form). Copies of the thesis should be submitted to committee members at least two weeks prior to the exam. Under normal circumstances the final oral examination should be scheduled for two hours. The thesis defense portion of the final oral exam is open to all interested persons. Following the open portion of the exam, the examining committee should exclude all other persons and will continue with an oral examination of the candidate's knowledge of the field and the evaluation of the candidate's performance. Refer to the current on-line Graduate Catalog for further details

<https://gradschool.oregonstate.edu/progress/exams-and-meetings>

It is expected that students will have two first-author manuscripts accepted for publication, by the time of their defense.

Graduate Minor in Food Science and Technology

Masters students who desire to earn a minor in Food Science must include a minimum of 15 credits of graduate course work from FST; doctoral students who desire to earn a minor in Food Science require a minimum of 18 credits from FST.

Requirements:

a) **Food Microbiology** (Beginning AY 22-23):

One of the following lectures:

MB 540 Food Microbiology (3 credits) Winter

FST 599 SS/Food Safety and Sanitation (3 credits) Spring

AND

One of the following laboratory classes:

MB 541 Food Microbiology Laboratory (2 credits) Winter

FST 599 SS/Microbial Methods for Food Analysis (3 credits) Summer

b) **Introduction to Food Engineering Principles:**

One of the following lectures:

FST572 Food engineering and processing 1 (4 credits)

FST595 Food manufacturing and packaging (4 credits)

c) **Food Chemistry** – any **one** of the following FST Food Chemistry offerings:

FST 522 Food Chemistry Fundamentals (4 credits) Fall

FST 523 Food Analysis (4 credits) Winter

FST 525 Food Systems Chemistry (4 credits) Spring

FST 628 Flavor Chemistry (3 credits)

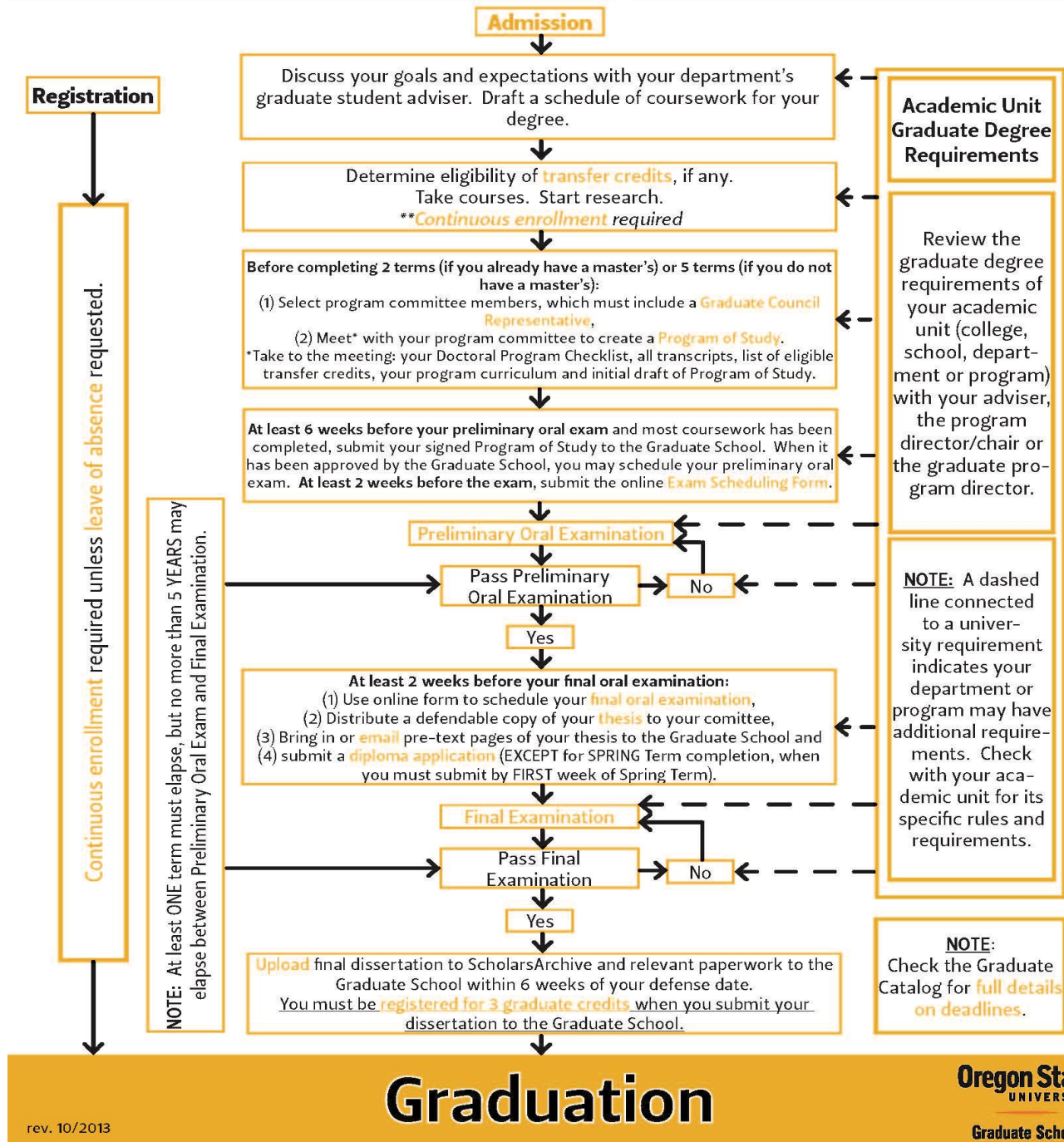
FST 639 Food Polymer Science (3 credits)*

FST 641 Processing Wheat and Other Small Grains: A Molecular View (3 credits)*

d) **Food Science and Technology:**

Remaining credits can be met by any 500 or 600 level FST class(es).

Flow Chart for Ph.D. Completion



**This flowchart reflects the minimum requirements to comply with the Graduate School's policies. Where more stringent, FST Graduate Program requirements take priority.*

Suggested Courses That Can Be Taken for Graduate Credit

Course		Credit
Food Science and Technology		
Seminar	FST 507/607	1
Sensory Evaluation	FST 520	3
Food Law	FST 521	3
Food Chemistry Fundamentals	FST 522*	4
Food Analysis	FST 523	4
Food Systems Chemistry	FST 525	4
Sensory Evaluation Lab	FST 528	
Brewing Science	FST 560	3
Brewing Analysis	FST 561	3
Wine Production Principles	FST 566	3
Wine Prod Analysis & Sensory Eval	FST 567	5
Fermentation Microbiology	FST 579	3
Food Processing Calculations	FST 590	2
Food Processing Calculations/Lab	FST 591	1
Food Packaging	FST 595	2
Adv Topics in Sensory Sci	FST 620**	2
Flavor Chemistry	FST 628**	3
Food Polymer Science	FST 639**	3
Processing Wheat & Other Small Grains: A Molecular View	FST 641**	3
Advanced Topics in Enology	FST 666**	3
Chemistry		
Bioanalytical Chemistry	CH 524**	3
Structure Determined by Spectroscopic Methods	CH 535	3
Physical Chemistry	CH 540,541,542	3,3,3
Separations: Chromatography * Related Methods	CH 661	4
Mass Spectrometry of Organic Compounds	CH 697**	3
Microbiology		
Food Microbiology	MB 540,541	3,2
Bacterial Pathogenesis	MB 530	3
Fish Diseases in Conservation Biology & Aquaculture	MB 591	4
Toxicology		
Target Organ Toxicology	TOX 512*	3
Environmental Tox & Risk Mngmnt	TOX 513*	3
Toxic Substances in Food	TOX 529	3
Advanced Xenobiotic Metabolism	TOX 575	3
Testing for Genotoxicity	TOX 611*	4
Notes:		

Course		Credit
Biochemistry, Biophysics		
General Biochemistry	BB 550, 551	4,3
Biophysics	BB 581,582,583	3,3,3
Biochemistry	BB 590,591,592	3,3,3
Biochemistry Lab	BB 593,594	3,3
Selected Topics in Biochem/Biophysics	BB 650,651,652	3,3,3
Phys Methods in Biophysics/Biochem	BB 664	3
Statistics		
Methods Data Analysis	ST 511,512*,513*	4,4,4
Sampling Methods	ST 531	3
Statistical Methods	ST 551,552*,553*	4,4,4
Advanced Experimental Design	ST 555*	3
Applied Multivariate Analysis	ST 557**	3
Nutrition		
Human Nutrition Science Lab	NUTR 517,518	4,4
Nutrition & Exercise:Macronutrient & Energy Metabolism	NUTR 535	3
Metabolic Interrelationships in Nutrition	NUTR 617**	1-16
Metabolic Interrelationships in Nutrition	NUTR 618	3
Other		
Cognitive Engineering	IE 548	3
Intro to Food Engineering Principles	BEE 572	5
Food Engineering and Processing	FST 572	4
Food Manufacturing and Packaging	FST 595	4
SS/Food Safety and Sanitation	FST 599	3
SS/Microbial Methods for Food Analysis	FST 599	3
Key: Courses in blue are 500/600 only. *Indicates enforced prerequisites. **Not offered every year Courses in red indicate core required coursework.		
The Food Chemistry requirement is to take one of the following Food Chemistry offerings: FST 522,523,525,628,639,641		

Faculty Research Interests

Chris Curtin, Ph.D. Assistant Professor Fermentation Microbiologist. Fermentation microbiology with an emphasis on brewing yeast and microbial ecology of beer production. Major interests are the development of new yeast strains, biology of *Brettanomyces* species, and the application of genomic techniques in food science. 541-737-1599. christopher.curtin@oregonstate.edu

David Dallas, Ph.D. Assistant Professor. Research interest is in milk biology and its interaction with infants and adults. The Dallas lab examines milk protein-derived bioactive peptides, identifying their release within the digestive tract using liquid chromatography mass spectrometry and determines functions of released peptides using cell based assays. 541-737-1751. dave.dallas@oregonstate.edu. dallaslab.org.

Christina A. Mireles DeWitt, Ph.D., Professor; Director- Astoria Seafood Lab. Research interests are focused on efforts that improve seafood/muscle food quality and safety. Particularly with regard to understanding how injection/marinade and high pressure processes can be used to enhance fresh product quality while minimizing impacts on nutritional value and safety. Interests also center on enhancing utilization of co-products generated from seafood processing and minimization of processing waste. 503-325-4531 christina.dewitt@oregonstate.edu.

Lisbeth Goddik, Ph.D. Department Head, Professor, Extension Dairy Processing Specialist; Extension dairy processing; dairy product safety; product and process development; optimization of product quality. Economics of artisan cheese production, specialty cheese processing, and understanding terroir effect on Oregon dairy products. 541-737-8322. lisbeth.goddik@oregonstate.edu

Paul Hughes, Ph.D., Assistant Professor MBA Professor. Research interests include all aspects of beer and distilled spirit quality (taste, visual) and product stability, innovation in the distilled spirits sector including alternative methods of ethanol-water separation, accelerated- and photo-maturation of distilled spirits, and the application of ab initio computational chemistry and kinetic modelling to beer and distilled spirits problems. 541-737-4595. paul.hughes@oregonstate.edu

Jooyeoun Jung, Ph.D. Assistant Professor Senior Research. Sustainable food processing and packaging; edible packaging; active packaging; smart packaging; biodegradable packaging materials from food processing byproducts and wastes; reduce food waste and enhance shelf-life

Jovana Kovacevic, Ph.D., Assistant Professor, Food Safety Extension and Research, Food Innovation Center Experiment Station, Portland, OR. Research interests are in the application of molecular methods and genomics in food safety. In particular, how methods and tools can be used to improve pathogen tracing and understanding of contamination events in the farm-to-fork food chain in order to develop targeted interventions. Particularly interested in stress response mechanisms, survival, and prevention of *Listeria monocytogenes* contamination in food processing environments. jovana.kovacevic@oregonstate.edu

Jung Y. Kwon, Ph.D. Assistant Professor, Astoria Seafood Lab. Biological functions of natural dietary molecules derived from marine resources in health promotion and disease prevention. Research interest includes identifying marine-derived bioactive compounds with beneficial effects in obesity and associated metabolic syndrome focusing on the regulation of lipid metabolism and inflammation in adipose tissue; uncovering potential health value of seafood materials and underutilized aquatic resources to promote efficient utilization of the harvested resources. 503-325-4513 Jung.Kwon@oregonstate.edu.

Juyun Lim, Ph.D. Professor. Sensory science with emphasis on sensory perception and sensory methodology. Current research focusing on understanding the role of human sensory perception in ingestive behavior and also developing sensory and consumer testing methodology. 541-737-6507 juyun.lim@oregonstate.edu

Robert McGorin, Ph.D. Professor. Focus is primarily in flavor chemistry and trace volatile analysis. Additional research interests are in food analysis, chromatography and separations, spectrometry, and natural

products chemistry. 541-737-3131. robert.mcgorry@oregonstate.edu

James Osborne, Ph.D. Professor Enology. Wine microbiology with emphasis on malolactic fermentation and the microbial spoilage of wine. Influence of various wine microorganisms on wine quality. 541-737-6494. james.osborne@oregonstate.edu

Si Hong Park, Ph.D. Assistant Professor. Food Safety Biologist; Genomics, metagenomics (microbiome and whole genome sequencing) and transcriptomics based on a next generation sequencing and bioinformatics. Research is focusing on the detection, identification and control of foodborne pathogens such as *Salmonella*, *Listeria*, *Campylobacter* and *E. coli* in foods using various molecular techniques. Microbiome sequencing in gastrointestinal tracts of humans, food animals (poultry and cattle) and experimental animals to evaluate the microbial diversity in the presence of food and feed supplements (prebiotics, probiotics and antimicrobials) and/or foodborne pathogen challenge. 541-737-1684. sihong.park@oregonstate.edu

Michael Penner, Ph.D. Associate Professor. Bio-based processes for the conversion of plant-derived biomass to fermentable sugars for bioproduct and biofuel production; mechanisms dictating rates of plant-derived biomass biodegradation; analytical approaches for the characterization of plant-derived biomass. 541-737-6513 mike.penner@oregonstate.edu

Michael Qian, Ph.D. Professor. Flavor Chemistry, Food Analysis, Dairy Chemistry. Characterization of aroma compounds, chemical and biological generation in dairy, small fruits and wines. Instrumental analysis of food components. 541-737-9114 michael.qian@oregonstate.edu

Andrew Ross, Ph.D. Professor. Fundamental and applied research of cereal grain components, wheat-based foods (noodles, artisan breads, food barley), and bio-products from cereal grain fractions. Located in the OSU Cereal Breeding & Cereal Genetics Program in the Crop and Soil Science Department. 541-737-9149 andrew.ross@oregonstate.edu

Tom Shellhammer, Ph.D. Professor. Brewing research examines processing and raw material interactions on beer quality with a particular emphasis on hops and their contribution to beer flavor, foam and physical stability. Research studies often combine instrumental and sensory analyses. 541-737-9308. tom.shellhammer@oregonstate.edu

Stone, David, PhD. Professor, Director Food Innovation Center, Portland, OR. General interests include food safety and public health, development of value-added products in agriculture and engagement with under-represented communities in the food sector. Specific research interests include the assessment of biotoxins and metals in marine and freshwater organisms. Dr. Stone directs a talented team at the Food Innovation Center (FIC), where he work with clients to advance Northwest foods. dave.stone@oregonstate.edu. 503-872-6656

Elizabeth Tomasino, PhD. Associate Professor of Enology. Relationships between wine sensory and chemical data; determination and importance of chiral aroma compounds in wine; differentiation of regional wine styles. 541-737-4866. Elizabeth.tomasino@oregonstate.edu

Joy Waite-Cusic, Ph.D. Associate Professor. Food microbiology with food safety emphasis; specifically interested in pathogen prevalence studies and risk assessment, method development and validation for detection of pathogens, and process validation and surrogate development. 541-737-6825. joy.waite-cusic@oregonstate.edu

Yanyun Zhao, Ph.D. Professor. Food processing and packaging techniques for enhancing food quality and safety. Development and characterization of edible and biodegradable packaging materials from food and agricultural byproducts. 541-737-9151. Yanyun.zhao@oregonstate.edu

LAB SAFETY

In Case of Fire

1. Activate the building fire alarm* by pulling the nearest wall "fire pull" to alert occupants. The alarm does not always call fire fighters to the scene, but most alarms are connected to the campus notifier system that is monitored by the Public Safety Dispatch Center. (In Wiegand Hall there are seven fire pulls; three on the first floor and three on the second floor and one in the Pilot Plant.)
 - You are only supposed to use the fire extinguishers if you have completed the appropriate training: <https://ehs.oregonstate.edu/osu-fire-extinguisher-use>
2. Call the Corvallis Fire Department (911), and give the exact location of the fire.
3. Evacuate occupants from the building. Follow building evacuation procedures. Send someone outside the building to direct fire fighters to the scene.
4. For small fires, use the closest appropriate fire extinguisher. Do not use water on electrical fires. Make sure while you are working in a lab that nothing is blocking the fire extinguisher.

Building Evacuation

FST's evacuation plan: everyone should gather in the grassy area across Campus Way in front of Wiegand (the middle grassy area). Your lab should have a way to contact and account for everyone in your lab.

When the alarm sounds, walk to the nearest usable exit. Use the stairways and NEVER use the elevator because it can quickly become filled with smoke and be a firetrap when electrical power is lost. Be aware of alternate exits from the building.

Before leaving the workstation, take personal valuables and lock up any valuable materials or documents. Do not, however, endanger life through delay. Assist non-ambulatory persons leaving the building.

Use fire escape ladders only when the stairways are closed by fire. Before opening a door during a fire, feel each door with the back of your hands before opening it. If it feels hot, use an alternate exit. If caught in smoke, keep low where the air is better. Take short breaths through the nose.

When outside the building, do not block doorways or driveways. Stay a minimum of 100 feet from the building. Do not return to the building until advised to do so by personnel in charge.

Personal Protective Equipment (PPE)

Each lab will be responsible for issuing its own personnel protective equipment. Lab coats are maintained in a central location for the department, check with your major professor for access. If you are performing a new procedure, or one you haven't done in a long time, it is your responsibility to go over it with your professor to ensure safety for yourself and others.

Emergency Treatment

Determine the extent of a person's injury by checking for breathing, pulse, bleeding, possible fracture, and pain. Administer first aid appropriate for the injuries if you are properly trained.

If the injured person is:

- not conscious or ambulatory, dial 911 on any campus phone for the Corvallis Fire Department ambulance. The ambulance crew will determine whether injured students should be transported to the Student Health Center or to the hospital.

- conscious and ambulatory STAFF, arrange for transportation by car or ambulance to the hospital or doctor's office as desired by injured person. If a supervisor or fellow employee is not available to provide transportation, contact Public Safety at 7-7000 because they are responsible for ensuring that appropriate transportation is obtained.

- conscious and ambulatory STUDENT, arrange transportation to the Student Health Center in Plageman Hall by calling Public Safety (7-7000) day or night. Students may also go to their personal physicians if desired.

Accident Reporting

On the job injuries must be reported within 24 hour:

file an **Incident Report** at: https://oregonstate2-gme-advocate.symplicity.com/public_report/index.php/pid035010?

To learn more about the process of filing a claim and what to expect throughout the process visit:
<https://risk.oregonstate.edu/workerscomp/how-to-file-a-claim>

If you do not have internet access to complete this process it is your responsibility to call someone to assist in completing and submitting the Incident Report.

If the employee's incident resulted in the need for medical treatment, the employee must complete the worker section of the **SAIF 801 Form**, then complete the employer section of the form. Fax the completed 801 to Insurance and Risk Management Services at 541-737-4855 within 24 hours of the incident. If the employee is not available to complete the worker section of the 801, complete the employer section, along with as much information as is known in the worker section and fax the form to Insurance and Risk Management Services within 24 hours of the incident.

The attached **Accident Reporting Process Flowchart** is a quick resource to help you visualize the initial process for reporting Workers' Compensation claims.

Fume Hood Safety

If a fire starts inside the fume hood should you:

Leave it in the safety hood, close the sash, activate the building fire alarm, call 911, and evacuate the building. All fume hoods in Wiegand Hall can withstand a fire burning inside for a minimum of fifteen minutes. Most hoods in this building will last even longer. This gives you a little bit of time to catch your breath and think about what steps you need to take next to protect yourself, lab mates, and the building.

MSDS

It is your right to know of any dangers you may be exposed to during your laboratory work. To check the MSDS (Material Safety Data Sheet) of chemicals you are concerned about please go to <https://ehs.oregonstate.edu/sds> . Or-OSHA Hazard Communication Standard (HCS, Right-to-Know Act) specifies that both employees and employers know the identity and safety/health hazards of substances used in the work place, in order to reduce occupational illnesses due to harmful chemical exposures.

The PI you work for is required to log/register chemicals used in your lab at the Environmental Health and Safety Chemical Inventory website <https://ehs.oregonstate.edu/ehs-assistant>. New chemicals coming into your lab should be registered – check with your PI.

Saferide

Due to OSU guidance in following the CDC guidelines of social distancing, we are unable to provide service and assure the health and safety of our staff and riders. Therefore, while the OSU Corvallis campus is in remote operating mode, with social distancing recommendations enacted, ASOSU SafeRide will be closed. We appreciate and understand this may cause inconveniences, and we urge students to utilize the [Corvallis Transit System](#) and it's ADA Paratransit provider [Dial-A-Bus](#) during this time.

Contact us: During this time we can be contacted by emailing saferide@oregonstate.edu.

Purchasing Lab Supplies

Orders are placed through Christina Hull in the FST Office Wiegand 100. christina.hull@oregonstate.edu 541-737-6485

OSU has accounts established with numerous online vendors that provide discounts, free and/or next day shipping and invoicing options. Food Science and Technology has a departmental procurement card that can also be used for online purchasing. Check with Christina before placing any orders on your own.

Online Purchasing

Orders to be purchased online can be submitted to Christina though email. Orders submitted should include the vendor, the item number of the product(s), a brief description of the product(s), size, quantity, price and index to be charged. For orders being submitted for purchase from a website a link to product(s) on the website is also acceptable.

Benny Buy

Benny Buy is a University purchasing system that can also be used for placing orders. Please see Christina if you are interested in learning more about Benny Buy and how it is used in the Food Science department.

Purchasing Locally

The department has accounts set up with different vendors around Corvallis that allow for purchases to be charged. Please check with Christina before making a purchase locally and find out if they are a vendor and what is needed to make a purchase.

Personal Reimbursements

Personal reimbursements should be kept to a minimum and are only allowed for purchases that cannot be placed through Christina or locally with an invoicing vendor.

TRAVEL GUIDE FOR STUDENTS

When preparing to travel, please **PLAN AHEAD**. If you are unsure of the pre-approval and/or reimbursement request process, please contact travel@oregonstate.edu

Please see [travel info](#) on FST website for most up-to-date information and instructions

Appendix

[FST Forms](#) (Check-Off Forms, Course Waiver Form, Override Request Form, Path to Completion Chart)

[Graduate School Forms](#) (Program of Study, Exam Scheduling Form, GCR List, Diploma App)