

AUTUMN 2022 ✂ ENV H 441/590



FOOD PROTECTION

MEETING TIMES & LOCATION

Fridays from 12:30am – 3:20pm
South Campus Center 303

INSTRUCTIONAL TEAM

Instructor: Emily Hovis, Assistant Teaching Professor, DEOHS

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Teaching Assistant: Isabel Nerenberg, MS Student

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COURSE DESCRIPTION

Explore the preventative and responsive measures that can be taken so that food intended for human consumption is safe and does not cause illness or other adverse effects. Learn about various food safety hazards, basic sanitation principles employed along the farm to fork continuum for controlling hazards, the regulatory environment that exists to minimize food safety risks in the United States, and potential career paths in the field of food safety. This course has a particular focus on prevention of foodborne illness associated with retail food establishments, like restaurants and grocery stores.

COURSE INFORMATION

LEARNING GOALS

Upon completion of this course, all students should be able to:

1. Identify and describe the regulatory framework that exists to keep food safe in the United States.
2. Recognize, characterize, and categorize food safety hazards, their sources, and health effects.
3. Identify and describe foodborne illness risk factors and sanitation principles that are employed to minimize food safety risks along the farm-to-fork continuum.
4. Summarize and discuss hazard analysis critical control point (HACCP) principles.
5. Demonstrate and discuss foodborne illness outbreak investigation, response, and appropriate control measures.

Students enrolled in ENVH 590 should be able to:

6. Critically review the scientific and gray literature on food protection issues.
7. Compare and contrast alternative solutions to complex food safety problems.
8. Outline, recommend, and justify available solutions.

COURSE FORMAT

This course will be offered using primarily a flipped classroom model. Students are expected to come to class prepared for the day, having reviewed foundational content independently on Canvas (such as recorded lectures, videos, readings, etc.) in advance of scheduled class time. In-person class sessions will primarily focus on application of concepts through discussions, group activities, and field trips; with a particular emphasis on outbreak investigation case studies. Questions and comments on the subject matter are encouraged.



GRADING / ASSESSMENT OF LEARNING

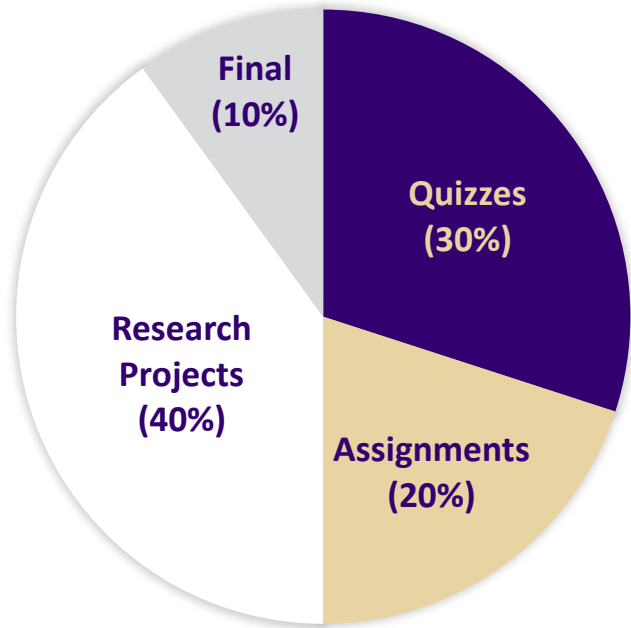
All quizzes, assignments and assessments (with few exceptions) must be submitted through Canvas by the due date. Late submissions will face a 2% penalty for each day they are late for a maximum of 50%. Your final grade will be calculated based on the following:

1. Research Projects (40%)

| | |
|--------------------------|---|
| UNDERGRADUATES | <p>Pathogen Project: This project provides a deep dive into the biology and control of foodborne pathogens. Students will select a pathogen to research independently and then collaborate with their peers to prepare and present a short (5-10 minute) in-class presentation. During this share session, students will develop a bacterial hazard table that will be used later in the class during a mock outbreak investigation.</p> <p>HACCP Project: This project explores the application of hazard analysis critical control point (HACCP) and active managerial control (AMC) principles. Students will independently choose a food/menu item to research throughout the quarter. Students will then collaborate to form a mock restaurant and develop a restaurant food safety plan. One assignment is focused on the development of a communication piece to train retail food workers about a specific food safety risk and appropriate control measures. Students will then present their communication piece and explain how it was tailored for the intended audience. This project takes place over several weeks with assignments being submitted regularly to help stay on track.</p> |
| GRADUATE STUDENTS | <p>Retail Food Safety Policy: This project provides a deep dive into food policy development. Students will research a food safety issue that was presented at the most recent Conference for Food Protection (CFP) meeting for inclusion in the next version of the FDA Model Food Code. Students will examine alternative solutions and then formulate a recommendation/solution. Finally, students will present this information to the class and provide scientific justification for their recommendation.</p> <p>HACCP Project: This project is the same as the undergraduate HACCP project with one big distinction - graduate students are required to select a food that uses a 'specialized processing method' as described in WAC 246-215-03535. Specialized processing methods are processes or procedures that use technologies, ingredients or equipment more commonly seen at a commercial manufacturer. They including curing and smoking for preservation, acidification, fermentation, sprouting, and the use of reduced oxygen packaging (like vacuum packaging or sous vide).</p> |

- 2. Weekly Quizzes (30%):** Quizzes will be available through Canvas before our scheduled class time. Quizzes will cover key content from the Canvas recorded lecture/readings and the previous week's in-person activities/discussion. These are designed to keep you engaged in the material and to help you (and me!) assess whether you are learning as you go.

3. Assignments (20%): Assignments will help students stay on track, understand and remember key points, and provide the opportunity to apply learning, evaluate evidence, synthesize material, and make connections between topics. Most assignments will be submitted electronically through Canvas. Major assignments are described below:



- **Interactive Lab Activity:** Students will participate in an interactive lab activity that explores cooking, cooling, evaluating TCS foods, and cleaning & sanitizing. This is a hands-on session that will provide an opportunity to use retail food inspection equipment.
- **Guest Lecture Summaries:** Subject matter experts will provide guest lectures throughout the quarter. These special guests are invited to give students a different perspective of food safety along the farm to fork continuum and provide an opportunity for students to learn about several real-world food safety career paths. Students are encouraged to engage with these special guests during class through discussion and questioning. Students will then submit a short summary about what they learned, including 2 key takeaways, after each guest lecture.
- **Mock Outbreak Investigation:** Students will learn about foodborne illness outbreak investigations by participating in an in-class mock outbreak investigation. Students will walk-through each step of the investigation from the initial illness notification, epidemiological investigation, laboratory investigation, environmental investigation, and final reporting.
- **Retail Inspection Shadowing:** Students have the option to shadow an environmental health inspector on several retail food inspections and write a report documenting the experience. This will be setup/coordinated with the instructor and will count as an extra-credit opportunity.

4. Final Assessment (10%): A final assessment will be available through Canvas during finals week. Questions will include multiple choice, true-false, fill-in-the-blank and short-answer based on Canvas videos/readings, class discussions, activities, field trips and the course objectives.

A 4.0 scale will be calculated using the following conversion:

| 4.0 Scale | Percentage | 4.0 Scale | Percentage | 4.0 Scale | Percentage |
|-----------|------------|-----------|------------|-----------|------------|
| 4.0 | ≥98.0% | 2.8 | <84.7% | 1.6 | <71.2% |
| 3.9 | <97.0% | 2.7 | <83.5% | 1.5 | <70.1% |
| 3.8 | <95.9% | 2.6 | <82.4% | 1.4 | <69.0% |
| 3.7 | <94.8% | 2.5 | <81.3% | 1.3 | <67.8% |
| 3.6 | <93.6% | 2.4 | <80.2% | 1.2 | <66.7% |
| 3.5 | <92.5% | 2.3 | <79.1% | 1.1 | <65.6% |
| 3.4 | <91.4% | 2.2 | <77.9% | 1.0 | <64.5% |
| 3.3 | <90.3% | 2.1 | <76.8% | 0.9 | <63.4% |
| 3.2 | <89.2% | 2.0 | <75.7% | 0.8 | <62.2% |
| 3.1 | <88.0% | 1.9 | <74.6% | 0.7 | <61.1% |
| 3.0 | <86.9% | 1.8 | <73.5% | 0.0 | <60.0% |
| 2.9 | <85.8% | 1.7 | <72.3% | | |

Table 1 - 4.0 Scale to Percentage and Letter Grade Conversion

COURSE MATERIALS

An overview of course materials will be available on Canvas as the first page in the weekly module. This overview will describe weekly learning objectives and list things 'to do' before coming to class:



To Read or View - Required Readings & Videos: This section includes pages of foundational content with links to readings and videos that are designed to enrich your learning experience. These materials are required to be read/viewed before class.



To Complete and Submit – Required Quizzes & Assignments: This section includes a list of quizzes and assignments that should be submitted by the listed due date. These assignments must be submitted/uploaded to Canvas before class.



To Explore - Optional Readings & Videos: The section list reading and videos that provide increased depth of a topic or illustrates the principles covered in the module that week. Students are encouraged to explore these materials, but they are strictly 'optional' and DO NOT need to be read/viewed before class.

Most readings are available as PDF files that can be viewed on Canvas or downloaded to your computer by following the links provided on the Canvas page. In some cases, the readings may be links to government or private websites. Videos will be imbedded in the Canvas page, so you can view the video directly on Canvas.

TENTATIVE SCHEDULE

Disclaimer: The syllabus, readings, and/or lecture schedule are all subject to change. Any changes will be announced in class and posted on Canvas.

| WEEK | DATE | SUBJECT AREA |
|------|-------------|--|
| 1 | 9/30 | Introduction to Food Protection |
| 2 | 10/7 | Regulatory Framework & International Food Safety <i>Guest Lecture: Adam Lim with Starbucks</i> |
| 3 | 10/14 | Foodborne Illnesses & Hazards <i>Pathogen Project Group Presentations</i> |
| 4 | 10/21 | Principles of Prevention - Designing Safer Food Product <i>Pathogen Project Group Share Presentations (continued)</i> |
| 5 | 10/28 | Principles of Prevention - Basic Food Safety <i>Field Trip: Interactive Lab Activity at Chef's Table in Lander Hall</i> |
| 6 | 11/4 | Foodborne Illness & Outbreak Investigations <i>Guest Lecture: Meelay Tellier with Department of Health</i> |
| 7 | 11/11 | NO CLASS - VETERAN'S DAY HOLIDAY |
| 8 | 11/18 | Safely Managing the Food Supply – Production & Processing <i>Guest Lecture: Connie Fisk with WSDA Produce Safety Program</i> |
| 9 | 11/25 | NO CLASS - THANKSGIVING HOLIDAY |
| 10 | 12/2 | Safely Managing the Food Supply – Retail & Home <i>Guest Lecture: Chris Skilton with PHSKC Food Safety Program</i> |
| 11 | 12/9 | Food Safety Education & Emerging Issues in Food Safety <i>HACCP Project Group Presentations</i> |
| 12 | 12/11-12/16 | Final Assessment Available on Canvas |

COURSE POLICIES

ACADEMIC INTEGRITY

Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity.

The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of [the University of Washington Student Conduct Code](#) (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism, and [the SPH Academic Integrity Policy](#). Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington [Community Standards and Student Conduct](#) website.

ACCESS & ACCOMODATION

Your experience in this class is important to me. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you have already established accommodations with Disability Resources for Students (DRS), please activate your accommodations via myDRS so we can discuss how they will be implemented in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), contact DRS directly to set up an Access Plan. DRS facilitates the interactive process that establishes reasonable accommodations. Contact DRS at disability.uw.edu.

BIAS CONCERNS

The Office of the Dean has a [student concern policy](#), a faculty concern policy and standard HR procedures for staff concerns. Our 2018 climate survey states that most people in SPH do not report bias incidents because they do not know where to go. Students are encouraged to report any incidents of bias to someone they feel comfortable with, including instructors, advisers or department staff. They can email dcinfo@uw.edu for immediate follow up. Bias concerns can be anonymously and confidentially reported at this link <https://sph.washington.edu/about/diversity/bias-concerns>. Data is collected by the Assistant Dean for EDI and the Director of Program Operations for Student and Academic Services and tracked for resolution and areas are identified for further training.

CLASSROOM CLIMATE

We are co-creators of our learning environment. It is our collective responsibility to develop a supportive learning environment for everyone. Listening with respect and an open mind, striving to understand others' views, and articulating your own point of view will help foster the creation of this environment. We engage our differences with the intent to build community, not to put down the other and distance our self from the other. Being mindful to not monopolize discussion and/or interrupt others will also help foster a positive learning environment.

The following guidelines can add to the richness of our discussion:

- We assume that persons are always doing the best that they can, including the persons in this learning environment.
- We acknowledge that systematic oppression exists based on privileged positions and specific to race, gender, class, religion, sexual orientation, and other social variables and identities.
- We posit that assigning blame to persons in socially marginal positions is counter-productive to our practice. We can learn much about the dominant culture by looking at how it constructs the lives of those on its social margins.
- While we may question or take issue with another class member's ideology, we will not demean, devalue, or attempt to humiliate another person based on her/his experiences, value system, or construction of meaning.
- We have a professional obligation to actively challenge myths and stereotypes about our own groups and other groups so we can break down the walls that prohibit group cooperation and growth. [Adapted from Lynn Weber Cannon (1990). Fostering positive race, class and gender dynamics in the classroom. *Women Studies Quarterly*, 1 & 2, 126-134.]

We are a learning community. As such, we are expected to engage with difference. Part of functioning as a learning community is to engage in dialogue in respectful ways that supports learning for all of us and that holds us accountable to each other. Our learning community asks us to trust and take risks in being vulnerable.

Here are some guidelines that we try to use in our learning process:

- LISTEN WELL and be present to each member of our group and class.
- Assume that I might miss things others see and see things others miss.
- Raise my views in such a way that I encourage others to raise theirs.
- Inquire into others' views while inviting them to inquire into mine.
- Extend the same listening to others I would wish them to extend to me.
- Surface my feelings in such a way that I make it easier for others to surface theirs.
- Regard my views as a perspective onto the world, not the world itself.
- Beware of either-or thinking.
- Beware of my assumptions of others and their motivations.
- Test my assumptions about how and why people say or do things.
- Be authentic in my engagement with all members of our class.

COVID PROTOCOLS AND SAFETY

All UW students are expected to follow [state](https://doh.wa.gov) [doh.wa.gov], [local](https://kingcounty.gov), [kingcounty.gov] and [UW COVID-19 policies and recommendations](#). Please be extra conscientious about masking during the first few weeks of the quarter, because we will have a lot of members of the community traveling and can reasonably expect to see a surge in COVID cases.

If you feel ill or exhibit possible COVID symptoms, you should not come to class. If you need to temporarily quarantine or isolate per CDC guidance and/or [campus policy](#), you are responsible for notifying your instructors as soon as possible by email. **If you receive a positive COVID-19 test result, you must report to campus Environmental Health & Safety (EH&S) by emailing covidehc@uw.edu or calling 206-616-3344.**

Please check your email daily BEFORE coming to class. If we need to conduct class remotely because the instructor or a guest speaker is complying with UW policies and unable to attend in person, we will send all registered students an email with a Zoom link for remote instruction.

EQUITY, DIVERSITY AND INCLUSION

Diverse backgrounds, embodiments and experiences are essential to the critical thinking endeavor at the heart of University education. In SPH, students are expected:

1. To respect individual differences, which may include, but are not limited to, age, cultural background, disability, ethnicity, family status, gender, immigration status, national origin, race, religion, sex, sexual orientation, socioeconomic status and veteran status.
 2. To engage respectfully in the discussion of diverse worldviews and ideologies embedded in course readings, presentations and artifacts, including those course materials that are at odds with personal beliefs and values.
 3. To encourage students with concerns about classroom climate to talk to their instructor, adviser, a member of the departmental or SPH EDI Committee, the Assistant Dean for EDI, or the program's director.
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LATE ASSIGNMENT POLICY

All quizzes, assignments and assessments (with few exceptions) must be submitted through Canvas by the due date. Late submissions will face a 2% penalty for each day they are late for a maximum of 50%.

NOTICE TO STUDENTS – USE OF PLAGIARISMS DETECTION SOFTWARE

The University has a license agreement with SimCheck, an educational tool that helps prevent or identify plagiarism from Internet resources. Your instructor may use the service in this class by requiring that assignments are submitted electronically to be checked by SimCheck. The SimCheck Report will indicate the amount of original text in your work and whether all material that you quoted, paraphrased, summarized, or used from another source is appropriately referenced.

PERSONAL PRONOUNS

We share our pronouns because we strive to cultivate an inclusive environment where people of all genders feel safe and respected. We cannot assume we know someone's gender just by looking at them. So, we invite everyone to share their pronouns.

RECORDING OF REMOTE CLASS SESSIONS

This course is scheduled to run synchronously in-person in South Campus Center room 303 at the scheduled class time - Fridays from 12:30pm-3:20pm. In the event we need to switch to remote instruction, we will use Zoom and notify students via Canvas. These Zoom class sessions may be recorded. The recording will capture the presenter's audio, video and computer screen. Student audio and video will be recorded if they share their computer audio and video during the recorded session. The recordings will only be accessible to students enrolled in the course to review materials. These recordings will not be shared with or accessible to the public. The University and Zoom have FERPA-compliant agreements in place to protect the security and privacy of UW Zoom accounts. Students who do not wish to be recorded should change their Zoom screen name to hide any personal identifying information such as their name or UW Net ID, and not share their computer audio or video during their Zoom sessions.

RELIGIOUS ACCOMODATIONS

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](#). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form](#).

SAFETY

Call SafeCampus at 206-685-7233 anytime – no matter where you work or study – to anonymously discuss safety and well-being concerns for yourself or others. SafeCampus's team of caring professionals will provide individualized support, while discussing short- and long-term solutions and connecting you with additional resources when requested.

SEXUAL HARASSMENT

Sexual harassment is a form of harassment based on the recipient's sex that is characterized by:

1. Unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature by a person who has authority over the recipient when:
 - Submission to such conduct is an implicit or explicit condition of the individual's employment, academic status, or ability to use University facilities and services, or
 - Submission to or rejection of the conduct affects tangible aspects of the individual's employment, academic status, or use of University facilities.

2. Unwelcome and unsolicited language or conduct that creates an intimidating, hostile, or offensive working or learning environment, or has the purpose or effect of unreasonably interfering with an individual's academic or work performance.

If you believe that you are being harassed, or have observed harassment, you can report it to SPH using the bias concerns link. The University also has designated offices to help you: [SafeCampus](#); [Office of the Ombud](#); [Title IX Investigation Office](#); and [University Complaint Investigation and Resolution Office](#).

SPH LAND ACKNOWLEDGEMENT

The University of Washington acknowledges the Coast Salish people of this land, the land which touches the shared waters of all tribes and bands within the Duwamish, Suquamish, Tulalip and Muckleshoot nations.

WRITING RESOURCES

All written assignments for this class must be high quality, well researched, well organized, and well written. Use plain language instead of jargon. The instructors will consider the clarity of writing when grading assignments. Writing is an important transferable skill for all career pathways. Establishing a strong foundation in writing skills will help students be successful throughout their future course work and career. Therefore, this course includes written assignments with the goal to helping students identify areas of strength and improvement in writing. However, if a student feels that they could benefit from additional opportunities to improve their writing skills, a list of resources at the UW and others accessible online can be found on the SPH website (<https://sph.washington.edu/sites/default/files/inline-files/Writing-Resources-4.3.19.pdf>) and on the DEOHS intranet (<https://portal.deohs.washington.edu/index.php/academic-support-writing-resources>).