

Spring 2023  ENV H 442



ZOONOTIC DISEASES & THEIR CONTROL

MEETING TIMES & LOCATION

Wednesday & Friday from 2:30 – 3:50 pm in HSEB 125

INSTRUCTOR

Emily Hovis, Assistant Teaching Professor

Department of Environmental & Occupational Health Sciences (DEOHS)

Email: ehovis@uw.edu

Office Hours: By Appointment

COURSE DESCRIPTION

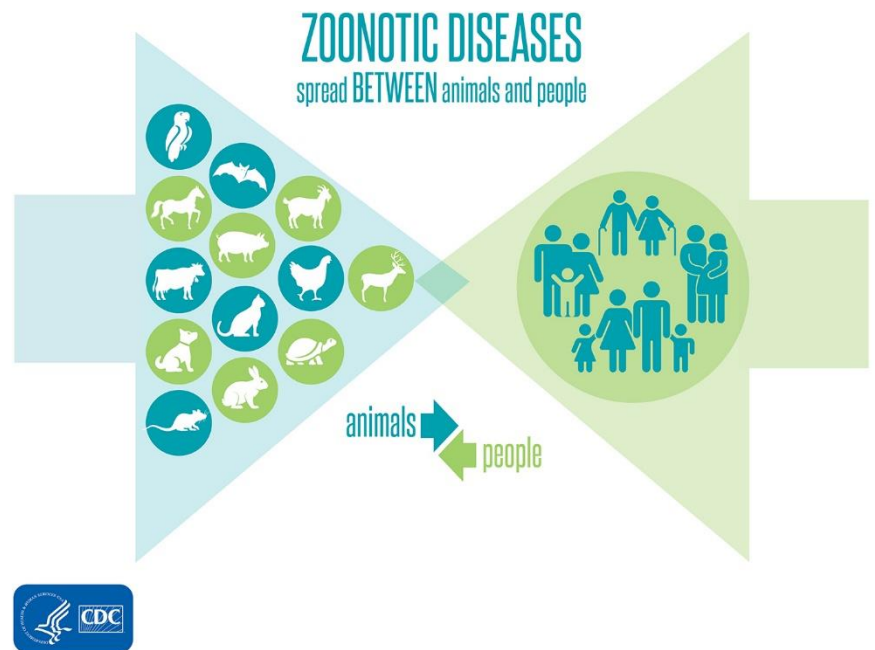
In this course, we study zoonotic diseases (zoonoses) and the role that animals play as reservoirs, hosts, and vectors – both locally and globally. Students will learn about vector borne diseases of public health significance and general strategies for identification, surveillance, and control of common animal reservoirs and vectors including bats, rodents, flies, roaches, bedbugs, mosquitoes, and ticks. This course has a particular focus on the role environmental health professionals play in preventing zoonoses in their communities and explores potential career paths in the field of zoonotic disease.

ENVH 442: ZONOTIC DISEASES COURSE SYLLABUS

LEARNING GOALS

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

1. Recognize, characterize, and categorize zoonotic disease reservoirs, vectors, and hosts.
2. Describe the causes, signs, symptoms, and importance of the vector-borne diseases of public health significance – regionally, nationally, and internationally.
3. Identify and describe control methods that are employed to minimize zoonotic disease risk from various vectors.
4. Summarize and discuss integrated pest management (IPM) principles and other control strategies.



5. Discuss zoonotic disease outbreak investigation, response, and appropriate control measures.

COURSE FORMAT

Classes will be formatted to include a combination of lectures, discussion, and case studies. This course is grounded in student-centered, active learning. Students are expected to come to class prepared for the day, having reviewed content independently on Canvas (such as recorded lectures, readings, etc.) in advance of scheduled class time. Questions and comments on the subject matter are encouraged.

STUDENT RESPONSIBILITIES

Students are expected to:

1. Prepare for each class session by completing assigned readings and quizzes, participate actively in course discussions, and engage with guest speakers.
2. Complete all graded requirements and activities
3. Come to class on time, refrain from packing up belongings before class ends, give full respectful attention while either the instructor or another student is speaking, use courteous, respectful language, and keep comments and questions relevant to the topic at hand.
4. Bring laptops and/or electronic devices to participate in learning group activities. Electronic devices that might create a disruption in class should be turned off.

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:

Weekly Quizzes: Weekly content quizzes are available through Canvas, are due on Sunday evening, and will cover key content from the readings, lectures, activities and discussions from the previous week. These are designed to keep you engaged in the material and to help you (and me!) assess whether you are learning as you go.

	Points	Due
• <i>Introduction to Zoonoses</i>	8	4/2
• <i>Emerging & Foodborne Zoonoses</i>	10	4/9
• <i>Integrated Pest Management (IPM)</i>	10	4/16
• <i>Rodent Biology, Control, and Associated Diseases</i>	10	4/23
• <i>Bat Biology, Control, and Associated Diseases</i>	10	4/30
• <i>Mosquito Biology, Control, and Associated Diseases</i>	12	5/7
• <i>Food & Housing Pest Biology, Control, and Associated Diseases</i>	8	5/14
• <i>Tick Biology, Control, and Associated Diseases</i>	12	5/21
• <i>Tick Surveillance & Field Trip Reflection</i>	10	6/4
• <i>Travel-Associated Zoonoses</i>	10	6/4
100 TOTAL POINTS		

Spillover Reading Quizzes: Students will read select chapters from *Spillover: Animal infections and the next human pandemic* throughout the quarter and complete a short reading quiz before coming to class. The quizzes are designed to ensure students have read the chapter before coming to class, so all are prepared to participate in learning group discussions.

	Points	Due
• <i>Chapter 1: Pale Horse</i>	5	4/5
• <i>Chapter 4: Dinner at the Rat Farm</i>	5	4/19
• <i>Chapter 3: Everything Comes from Somewhere</i>	5	5/3
• <i>Chapter 5: The Deer, The Parrot & The Kid Next Door</i>	5	5/17
• <i>Chapter 6: Going Viral</i>	5	5/31
25 TOTAL POINTS		

Spillover "Deep Dive" Assignment: Each student will select one chapter from *Spillover: Animal infections and the next human pandemic* to conduct a deep dive into the topic area. Students will then post an update about their zoonoses on a discussion board, and write a research paper.

	Points	Due
• <i>Zoonoses Discussion Post Update</i>	25	4/30
• <i>Zoonoses "Deep Dive" Report</i>	50	5/28
75 TOTAL POINTS		

Learning Group Activities: Students will form learning groups that meet in-class throughout the quarter. Learning groups meet during scheduled class time to engage in discussions, case studies, and other learning activities. Groups will turn in a written assignment documenting their discussion at the end of class. Each member of the group should participate in these discussions and contribute. To encourage you to stay home due to illness, we will drop your lowest grade in this assignment category.

	Points	Due
• LGA 1 – Community Group Agreement	10	3/29
• LGA 2 – Spillover Documentary Discussion	10	3/31
• LGA 3 - Spillover Chapter 1 Discussion	10	4/5
• LGA 4 - Spillover Chapter 4 Discussion	10	4/19
• LGA 5 – Evaluating Rabies Exposures	10	4/26
• LGA 6 - Spillover Chapter 3 Discussion	10	5/3
• LGA 7 - Spillover Chapter 5 Discussion	10	5/17
• LGA 8 - Spillover Chapter 6 Discussion	10	5/31
• LGA Homework Assignment – Preventing Zoonoses at the County Fair	10	6/4

80 TOTAL POINTS

Guest Lecture Summaries: Subject matter experts will provide guest lectures throughout the course. These special guests are invited to give students a different perspective and provide an opportunity for students to learn about several real-world career paths in the field of zoonotic disease and vector control. Students will then submit a short summary about what they learned, including 2 key takeaways, after each guest lecture. To encourage you to stay home due to illness, we will drop your lowest grade in this assignment category.

	Points	Due
• Beth Lipton with the DOH <u>Zoonotic Disease Program</u>	5	4/16
• Leah Helms with the PHSKC <u>Zoonotic Disease Program</u>	5	4/21
• <u>Dr. Pappaioanou w/ UW DEOHS</u>	5	5/7
• Doug Hatfield with the WA DOH <u>Transient Accommodations Program</u>	5	5/14
• Dr. Dykstra with the WA DOH <u>Zoonotic Disease Program</u>	5	5/24

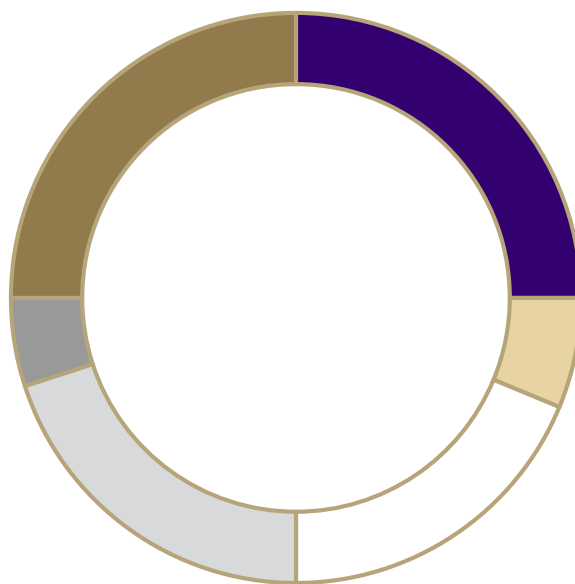
20 TOTAL POINTS

Group Project – Urban Rodent Survey: The class will be divided into several teams that will conduct an actual rodent survey of a Seattle neighborhood. Each group will prepare a final report and recorded presentation to characterize the nature and extent of the rodent problems found and provide detailed recommendations for corrective action(s).

	Points	Due
• URS 1 – Area Selection	10	4/12
• URS 2 – Field Survey Forms	10	4/21
• URS 3 – Written Report	50	5/5
• URS 4 – Recorded Presentation	20	5/12
• URS 5 – Peer Review	10	5/24

100 TOTAL POINTS

GRADE BREAKDOWN



- Weekly Quizzes [100 pts]
- Spillover Reading Quizzes [25 pts]
- "Deep Dive" Assignment [75 pts]
- Learning Group Activities [80 pts]
- Guest Lecture Summaries [20 pts]
- Urban Rodent Survey Project [100 pts]

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%	0.6	<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:



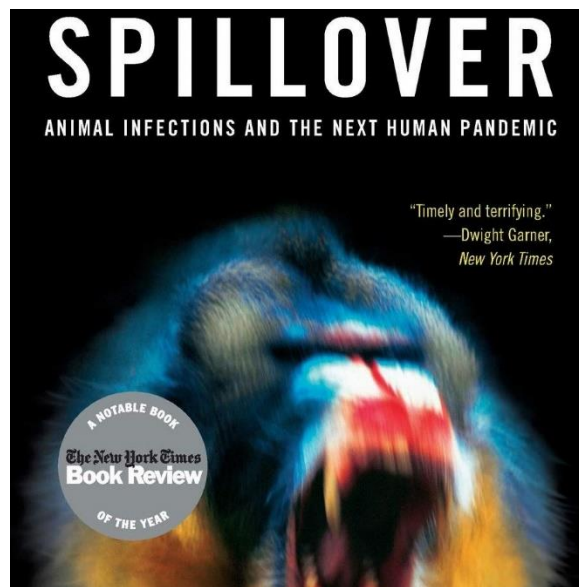
To Read or View - Required Readings & Videos: This section includes pages of foundational content with links to readings and videos that are designed to enrich your learning experience. These materials are required to be read before coming to class.



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 coming to class.

Required Books/Manuals: All students will be required to read the following during the course:

- ***Spillover: Animal infections and the next human pandemic.*** Quammen, D. (2012). New York: W. W. Norton & Company. It is available for purchase online or from the [UW library](#).



- ***Surveillance and Control of Aedes aegypti and Aedes albopictus in the United States.*** Center for Disease Control and Prevention. The full text is available for free [online](#).
- ***Integrated Pest Management: Conducting Urban Rodent Surveys.*** Center for Disease Control and Prevention. The full text is available for free [online](#).
- ***Tickborne Diseases of the United States.*** Center for Disease Control and Prevention. The full text is available for free [online](#).

ENVH 442: ZONOTIC DISEASE 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	3/29	Course Introduction
	3/31	Introduction to Zoonotic Disease (Zoonoses)
2	4/5	Emerging & Foodborne Zoonoses
	4/7	No Class Today
3	4/12	<i>Guest Lecture: Zoonotic Disease Outbreak Investigations</i>
	4/14	Introduction to Integrated Pest Management (IPM)
4	4/19	Rodent Biology, Control & Associated Diseases
	4/21	<i>Guest Lecture: Urban Rodent Surveys & Walk-About</i>
5	4/26	Bats as Reservoirs for Disease
	4/28	No Class Today – Work on Urban Rodent Survey Project
6	5/3	Mosquito Biology, Control & Associated Diseases
	5/5	<i>Guest Lecture: Malaria</i>
7	5/10	No Class Today – Work on Urban Rodent Survey Project
	5/12	<i>Confirmed Guest Lecture: Food & Housing Inspections</i>
8	5/17	Tick Biology, Control & Associated Diseases
	5/19	No Class Today – Work on Urban Rodent Survey Project
9	5/24	Tick Surveillance Field Trips
	5/26	Tick Surveillance Field Trips
10	5/31	<i>Confirmed Guest Lecture: Vectors & Disease Surveillance in WA State</i>
	6/2	Travel-Associated Zoonoses & Course Wrap-Up

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). Use of artificial intelligence tools, such as ChatGPT for assignments or exams is considered academic misconduct and is prohibited. 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 dialogic 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-RELATED/RESPIRATORY ILLNESSES - PROTOCOLS AND SAFETY

Winter is a time of increased risk of acquiring respiratory illnesses including COVID, RSV, cold, and flu.

If you feel ill or exhibit respiratory or other symptoms, you should **not** come to class. Seek medical attention if necessary and notify your instructor(s) as soon as possible by email.

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

Additional recommendations include:

- [Get boosted with the updated COVID-19 vaccines.](#) These vaccines are available at clinics and pharmacies, as well as [through UW Medicine](#) and local health agencies.
 - [Get your annual flu shot.](#)
 - **Wear a high-quality mask in indoor public spaces and while traveling. Masks are strongly recommended the first two weeks of winter quarter.** High-quality masks help protect against a range of respiratory viruses, and are [available for free in locations on each UW campus.](#)
 - **Take a coronavirus test if you have symptoms or have been exposed.** Rapid antigen tests are widely available for [free in at on campus locations linked here.](#) The [Husky Coronavirus Testing](#) voluntary research study is also available for UW students.
 - [Activate WA Notify on your phone](#) to receive exposure notifications and so that you can anonymously let others know of their exposure if you test positive.
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EXCUSED ABSENCE FROM CLASS

Students are expected to attend class and to participate in all graded activities. A student who is anticipating being absent from class due to a Religious Accommodation activity needs to complete the Religious Accommodations request process by the second Friday of the quarter. Students who anticipate missing class due to attendance at academic conferences or field trips, or participation in university sponsored activities should provide a written notice to the instructor ahead of the absence. The instructor will determine if the graded activity can be rescheduled or if there is equivalent work that can be done as an equivalent, as determined by the instructor.

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.

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](#) and on the [DEOHS intranet](#).