

Course Syllabus

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ENV H 593 A: Current Topics in Risk Assessment

Looking at Ecological Risk Assessment within an Ecosystems Well-Being Frame

Autumn Quarter 2022

2 Credits

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Dr. Elaine M. Faustman (pronouns: she/her/hers), Professor and Director of the Institute of Risk Analysis and Risk Communication, School of Public Health, University of Washington, Seattle. Dr. Faustman directs the Center for Children's Health Research and directed the Pacific Northwest Center for the National Children's Study and the Oceans and Human Health Center. She is an elected fellow of the American Association for the Advancement of Science and the Society for Risk Analysis. She has served on the USEPA Science Advisory Board and chaired the National Academy of Sciences Committee on Developmental Toxicology. She has also served on the National Advisory Environmental Health Sciences Council, NIEHS-NTP Board of Scientific Counselors and Committee on Alternative Toxicology Methods, National Academy of Sciences Committee on Toxicology and the Institute of Medicine Upper Reference Levels of Nutrient Subcommittee of the Food and Nutrition Board. She has served as the Secretary General for the International Union of Toxicology (IUTOX) and is currently a member of the International Science Council (ISC) World Data Systems Advisory Board. For over 2

decades she has been involved and directed Stakeholder forums and Community Based Participatory Research for DOE, EPA and NIH. She currently serves on the ISC CODATA Citizen Sciences Task group. Her research expertise is on integrative scientific approaches including identifying molecular mechanisms of developmental, reproductive, and neuro toxicants, characterizing in vitro techniques for toxicology assessment, and developing biological and exposure based dose-response models. She has over 200 peer reviewed research publications and reports.

Course Times and Locations:

Day/Time: Monday's from 2:30 pm - 4:20 pm

Location: South Campus Center (SOCC) 322

Course Description:

In this journal club/course we will examine both human and ecosystems well-being within several concepts of well-being. For example, we will examine the one health framework and understand impacts and risk assessment approaches from that lens. One challenge we are interested in examining is how humans are envisioned within the larger ecosystem and in particular to move from ecosystems services in serve to humans to looking at ecosystems as the overall concept by which we define human health and wellbeing in parallel with ecosystems health and well-being. To do this we will first start with the commonly referred concepts from the CDC, USEPA, WHO, FAO and OIE (world organization of animal health) definitions used in risk assessments specifically used to identify hazards and exposure for ecological risk assessments. Next, we will look at 9 concepts defined by the SETAC Society of Environmental Toxicology and Chemicals to see how these areas of knowledge inform our ecological risk assessment. Analysis of policy options to support and implement findings from ecological risk assessments for risk management will a part of our later course deliberations.

Learning Objectives:

1. Define Ecological Risk Assessment.
2. Articulate differences in an ecosystems based versus human based approach to environmental risk assessment.
3. Demonstrate familiarity with the nine areas for ecological knowledge and how it would inform risk assessment?
4. Compare how organ and organism level research informs the various levels of hazard identification in risk assessment.
5. Compare and contrast methods and approaches for setting ecologically driven risk management decisions.
6. Articulate scientific and policy considerations arising when differences occur between findings in eco and human risk assessments.

Additional Learning Objectives:

1. Think critically about risk assessment by completing reading assignments and participating in class discussions.
2. Communicate the concept of integrated risk assessment across media, populations, species and ecosystems.
3. Explain the risk assessment framework as it relates specifically to the current quarter topic.
4. Analyze assigned readings and interpret their relevance to not only the quarter topic but also their applicability and generalizability to risk assessment topics at large.
5. Summarize key points from assigned journal articles or other required readings.
6. Prepare and deliver an oral presentation(s) discussing the required reading.
7. Critique risk assessment applications as they relate to the current quarter topic.
8. Identify risk assessment strengths and challenges, as well as the role of uncertainty.
9. Develop skills to think critically about the methods and tools used for assessment, management, and communication of risk.

Course Requirements

Reminder this class is a journal club so please come to each session prepared to share your reading reports with your colleagues. Please use the “Article/ White paper Report Form Template” to structure your review. Please share a few slides that highlight your points. Remember that others in the class room will not have necessarily read the same papers so include enough information to allow them to have context for your report. We will always be able to pull up the original article but sometimes your tailored slides facilitate the discussion.

You will be requested to review one of the readings/ articles for each class and to complete 5 of the article report forms. If you will be missing class, please send your review by email.


You will also, by the end of the class, be requested to complete one Case Study report. Note that this report will be a critic of DOE’s planned actions and will be more of a summary of lessons learned from the sessions. Total page limits for this assignment is 3 pages double spaced. We will discuss further in class the purpose and intent of this report.

Grading:

- **50% Weekly Discussion Participation and Related Assignments:** Weekly summations and presentation of key points from readings and respectful engagement in substantive in-class discussions.
- **25% FIVE Article Reports** - See the template at the end of the syllabus and limit your responses to 2 pages double spaced. Reports will be graded for completeness and thoughtfulness. Reports should be submitted on Canvas each week before class starts. Please post the article you selected on the Canvas Discussions Page. You will need to submit five Article Reports throughout the quarter.
- **25% In-Class Presentation and report** – Presentation of your critic of the proposed case study. Please use the outline provided to facilitate/ order your comments. Please limit your response to 3 pages double spaced. You will be required to submit ONE case study report on Canvas for the


quarter. In addition to the report, please prepare a brief presentation (about 10 minutes) with 2-3 figures/tables to support your observations.

Land Acknowledgment:

Washington State is [home](https://www.washingtontribes.org/tribes-map)  (<https://www.washingtontribes.org/tribes-map>) to 29 federally recognized and five unrecognized tribes. We hope to demonstrate our collective humility and respect for the original caretakers of the land that the School of Public Health sits on. We encourage students to find out who the original settlers of the land they are on to encourage deeper understanding and solidarity with indigenous people.

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.

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](https://sph.washington.edu/students/academic-integrity-policy)  (<https://sph.washington.edu/students/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.

Statement on Inclusion and Diversity:

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


1. To respect individual differences, which may include, but are not limited to, age, cultural background, disability, ethnicity, family status, gender identity and expression, citizenship and 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.

On our first day of class we will create ground rules together to follow in promoting a productive learning environment for all members of the class. I am committed to making this class an equitable learning environment. Please talk with me right away if you experience disrespect in this class from other students and/or from me, and I will work to address it in an educational manner.

UW School of Public Health Equity Diversity and Inclusion Statement:

Our School of Public Health is committed to addressing the root causes of health inequities and promoting healthy and safe communities in our region and beyond. As the problem of racial and ethnic disparities in health outcomes continues to persist, policymakers and the general public increasingly look to health professional schools to address these urgent and unacceptable circumstances. As one of the few schools of public health in the Northwest, it is particularly important for us to be up to this challenge.

Underlying all public health research and training activities is an acknowledgement and deeper understanding of the effects that historical, cultural, and socioeconomic factors have on the health of communities, especially those who are most underserved. Racism and race-based oppression is all too often a central driver of health disparities. We work to attract and retain students, faculty and staff from diverse backgrounds and perspectives, to build and sustain a positive climate for inclusion and community, and to engender multiple modes of approaching complex problems. We strive to create opportunities for education, research and collaboration that leverage our strengths, similarities, and differences. We challenge ourselves to view problems and evaluate solutions through an equity lens. Through each of these efforts, we aim to foster a generation of public health professionals and academicians who are poised to transform health for the better in our communities.

Our historical logo, the Soul Catcher by Marvin Oliver, symbolizes the restoration of health and wellness and reminds us to align our work with the history, traditions, and practices while respecting and supporting the agency of individuals and communities to achieve their desired health outcomes. More information about our logo can be found [here](http://sph.washington.edu/about/soulcatcher.asp)  [_\(http://sph.washington.edu/about/soulcatcher.asp\)_](http://sph.washington.edu/about/soulcatcher.asp).

The work of equity, diversity and inclusion is the work of Public Health. We are committed to a future that is free of health inequities, that promotes the highest level of wellness that our communities aim for, and a diverse and inclusive public health workforce that embodies humility, respect, leadership and service on behalf of the diverse communities we are privileged to serve.

Statement on Classroom Climate  [_\(https://www.washington.edu/teaching/topics/engaging-students-in-learning/responding-to-disruptions-in-the-classroom/\)_](https://www.washington.edu/teaching/topics/engaging-students-in-learning/responding-to-disruptions-in-the-classroom/) :

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.

Reporting Learning Environment Concerns:

The Office of the Dean has a [student concern policy](https://sph.washington.edu/students/student-concern-policy), a faculty concern policy and standard HR procedures for staff concerns. Students are encouraged to report any incidents of bias in any of the following ways:

- Report the incident to someone they feel comfortable with (including teaching staff, adviser or department staff) or directly inform the SPH Assistant Dean for Equity, Diversity & Inclusion Dr. Victoria Gardner at vg@uw.edu.
- Email dcinfo@uw.edu to file a non-anonymous, confidential report (tracked by Director of Student and Academic Services and Assistant Dean of Equity, Diversity & Inclusion) or
- Send an anonymous and confidential report using the bias concern form [here](https://catalyst.uw.edu/webq/survey/vg/375764). Report is received by the Assistant Dean for EDI

and the Director of Program Operations for Student and Academic Services and tracked for investigation and/or resolution. Reporter can remain completely anonymous but will not receive a response.

Access and Accommodations:

Your experience in this class is important to me. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs 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 are not limited to mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu (<mailto:uwdrs@uw.edu>) or [disability.uw.edu](http://depts.washington.edu/uwdrs/) (<http://depts.washington.edu/uwdrs/>) DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

Religious accommodations:

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](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/) (<https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/>) (<https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/>). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form](https://registrar.washington.edu/students/religious-accommodations-request/) (<https://registrar.washington.edu/students/religious-accommodations-request/>) (<https://registrar.washington.edu/students/religious-accommodations-request/>).

Pronouns:

According to the UW First Year Programs, being an ally is not just about intention, it is also about behavior. 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.

COVID-Related Expectations

Per UW policy, this class will be conducted in person. We will be providing both synchronous as well as asynchronous access to the course however; a large portion of this course is real time dialogue and discussion with our DOE colleagues. Please notify the instructor when you anticipate missing the

synchronous dialogue available via Zoom and in class participation. We will arrange jointly with the course participants how to fulfill the course requirements if synchronous access cannot be achieved.

Please contact UW Disability Resources for Students (DRS) directly if you feel you may be eligible for an accommodation based on your status as an immunocompromised individual or based on other diagnosed physical or mental health conditions that might prevent you from being able to take classes in-person.

If you are a student enrolled in a program in SPH, and you are either living with an individual who is immunocompromised, OR you are unable to obtain a visa to travel to the US, you may be eligible for a “special arrangement” that will allow you to take this course remotely. Requests for special arrangements to take the class remotely should have been submitted to and approved by the Students and Academic Services team in the Office of the Dean before the beginning of the quarter. If you have questions about this type of arrangement, please reach out to Student and Academic Services by email at sphas@uw.edu.

All UW students are expected to complete their vaccine attestation before arriving on campus and to follow the campus-wide face-covering policy at all times. You are expected to follow state, local, and UW COVID-19 policies and recommendations. 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 206-626-3344.

Food is not allowed in the classroom. Drinks may be sipped with lifting or removal of your facemask for a brief moment, and immediate re-masking after drinking.

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. Thank you for your patience and support as we all transition together back to in-person learning!

To help facilitate covid safety, we ask students to please return to the same seat each class period unless instructed to change by an instructor. This will aid in learning each other's names as well as safety for close-contacts in the classroom.

Article/ White Paper Report Form Template:

**PLEASE LIMIT RESPONSES TO 2 PAGES DOUBLE SPACED PLUS SLIDES TO SHARE (Approx. 3 slides).*

Date:

Reviewer Name:

Title, Author(s), and Date of Paper

- What was the purpose of this paper?
- What methods did the author use?
- What were the key results?
- What key issues does the author(s) cite in the discussion?
- How does this article contribute to today's discussion topic?

Case Study Report:

**PLEASE LIMIT RESPONSES TO 3 PAGES DOUBLE SPACED PLUS SLIDES TO SHARE*

Date:

Reviewer Name:

Title, Authors, and Date of Paper:

- What was the purpose of this case study?
- What were the key results?
- Critic the methods/ approach used in the case study.
- Draft your report in the form of a critic of DOE's proposed approach for alternatives.
- Make sure you identify critical data gaps.

Course Schedule:




<u>Session #</u>	<u>Date</u>	<u>Topic</u>	<u>Readings</u>
Session 1	10/03/22	Introduction	No Required Readings prior to first session.
Session 2	10/10/22		
Session 3	10/17/22		Student to post chosen article on discussion board.
Session 4	10/24/22		Student to post chosen article on discussion board.
Session 5	10/31/22		Student to post chosen article on discussion board.

Session 6	11/03/22	Student to post chosen article on discussion board.
Session 7	11/14/22	Student to post chosen article on discussion board.
Session 8	11/21/22	Student to post chosen article on discussion board.
Session 9	11/28/22	
Session 10	12/05/22	No Required Readings

Topics and References

No Readings required prior to the first session

Course Summary:

Date	Details	Due
Mon Oct 3, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923989&include_contexts=course_1580223)	2:30pm to 5:30pm
Mon Oct 10, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923990&include_contexts=course_1580223)	2:30pm to 5:30pm
Mon Oct 17, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923991&include_contexts=course_1580223)	2:30pm to 5:30pm

Date	Details	Due
Mon Oct 24, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923992&include_contexts=course_1580223)	2:30pm to 5:30pm
Mon Oct 31, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923993&include_contexts=course_1580223)	2:30pm to 5:30pm
Mon Nov 7, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923994&include_contexts=course_1580223)	2:30pm to 5:30pm
Mon Nov 14, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923995&include_contexts=course_1580223)	2:30pm to 5:30pm
Mon Nov 21, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923996&include_contexts=course_1580223)	2:30pm to 5:30pm
Mon Nov 28, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923997&include_contexts=course_1580223)	2:30pm to 5:30pm
Mon Dec 5, 2022	 ENV H 593 A Au 22: Current Topics In Risk Assessment (https://canvas.uw.edu/calendar?event_id=2923998&include_contexts=course_1580223)	2:30pm to 5:30pm