ENV H 593 Sp: Current Topics in Risk Assessment

Analytic Tools for Environmental & Public Health Decision-Making

Spring Quarter 2021

Credits: 2, graded

Instructor:

Elaine M. Faustman, PhD, DABT (she/her)

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Office Hours: By appointment

Course Times and Locations:
Day/Time: Tuesday, 2:30 pm - 4:20 pm
Location: Zoom (Synchronous)

Course Description:
We will explore the theme of decision analysis through the lens of case studies and methods used for environmental and public health risk management around the world. Lessons learned help inform the frame and types of analytic tools useful for future public and environmental health management. Each student or small student group will follow a case study (e.g. environmental health, One Health, occupational health, etc.) and develop both qualitative and quantitative frameworks for analytic decisions.

Spring 2021 Class Goals Include Learning About:
- Problem-based risk framing
- Structured decision making
- Analyzing how ‘early warnings’ have been ignored or used in risk management to reduce hazard
- Multi-attribute decision-making approaches (e.g. economic, environmental, social, and technical attributes)
- Tools that are used across sectors (i.e. local, regional, and national governments; citizens; private sector, NGOs)
- Equity, diversity and inclusion – Can modeling be useful for decisions regarding underserved populations?
- How decision based analytic platforms have been used in community based participatory research
- Forms of analytics and analysis (i.e. cost-benefit, mixed effect multivariable logistic regression, probability, alternatives analysis, decision analytics, adaptive risk management approaches)

Course Requirements:
Reminder this class is a journal club so please come to each session prepared to share your articles or project applications with your colleagues. Please use the “Article Report Form Template” to structure your review of the shared articles. Remember that as you fill out these forms and prepare a few slides to share that your colleagues may not (probably not) have read this same article. Please share these slides that share your highlights in a manner so your colleagues can understand your enthusiasm, interest or concerns over the article conclusions. We will always be able to pull up the original article, but your tailored slides will facilitate the discussion.
You will be requested to review one article 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 “Research Relevancy Report Form Template”. Note that this report can cover more than one article and be more of a summary of lessons learned from the sessions. Total page limits for this assignment is 2 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 evaluated for completeness and thoughtfulness. Reports should be submitted on Canvas each week one day before our Tuesday class (i.e. at the end of day on Monday). This will allow everyone to see what you intend to discuss. 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 Project and report and applications** - Presentation or demonstration of the applications of decision analytic approaches to a specific environmental problem. Please review the suggested case studies to choose a problem that is relevant for you but which also allows us to assist your decision analytic application. Please use the modeling information (introduced Session 3) to develop an application. We will share a set of possible applications. An application report should consist of a slide set with notes that describes the questions that you are addressing, what model you used, model inputs and outputs you determined and used and any references that are relevant. Please answer whether the decision analytical model allowed you to extend your understanding of options and what those options might mean for your example application. You will be required to submit ONE application example that you lead and present and ONE application where you serve as co-lead and comment upon. This is especially directed to the model used and outputs for utility. Please post your materials on Canvas on the Monday prior to your application. Prepare a brief presentation (about 10 minutes) with 2-3 figures/tables to support your observations for only the application that you are the lead. One slide for the application for which you are the co-lead.

**Land Acknowledgment:**

Washington State is [home](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). 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.

**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).
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**: 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, 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. 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 or disability.uw.edu. 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. Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form.
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.

Course Schedule:

<table>
<thead>
<tr>
<th>Session Number</th>
<th>Date</th>
<th>Topic</th>
<th>Description</th>
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<tbody>
<tr>
<td>Session 1</td>
<td>March 30th</td>
<td>Introduction &amp; Overview of Class Objectives</td>
<td>What is decision analysis?</td>
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<tr>
<td>Session 2</td>
<td>April 6th</td>
<td>Discussion of Example Case Studies</td>
<td>Part I</td>
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<tr>
<td>Session 3</td>
<td>April 13th</td>
<td>Presentation of Modeling Tools</td>
<td>With Dr. Bill Griffith</td>
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<td>Session 4</td>
<td>April 20th</td>
<td>Application of Modeling Tools</td>
<td>With Dr. Bill Griffith</td>
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<td>Session 5</td>
<td>April 27th</td>
<td>Presentation and Analysis</td>
<td>Student Case I</td>
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<td>Session 6</td>
<td>March 4th</td>
<td>Presentation and Analysis</td>
<td>Student Case II</td>
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<td>Session 7</td>
<td>March 11th</td>
<td>Presentation and Analysis</td>
<td>Student Case III</td>
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<td>Session 8</td>
<td>March 18th</td>
<td>Presentation and Analysis</td>
<td>Student Case IV</td>
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<td>Session 9</td>
<td>March 25th</td>
<td>Evaluation of Modeling Methods, Approach,</td>
<td>With Stakeholders</td>
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<td>Future Directions</td>
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<tr>
<td>Session 10</td>
<td>June 1st</td>
<td>Summary and Course Evaluations</td>
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Background References:


Possible Case Studies:


Course Summary:

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<thead>
<tr>
<th>Date</th>
<th>Details</th>
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<tbody>
<tr>
<td>Tue Mar 30, 2021</td>
<td><a href="https://canvas.uw.edu/calendar?event_id=2063096&amp;include_contexts=course_1449285">ENV H 593 A Sp 21: Current Topics In Risk Assessment</a></td>
<td>2:30pm to 4:30pm</td>
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<td>Tue Apr 6, 2021</td>
<td><strong>ENV H 593 A Sp 21: Current Topics In Risk Assessment</strong>&lt;br&gt;<a href="https://canvas.uw.edu/calendar?event_id=2063097&amp;include_contexts=course_1449285">link</a></td>
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<td>Tue Apr 20, 2021</td>
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<td>Tue Apr 27, 2021</td>
<td><strong>ENV H 593 A Sp 21: Current Topics In Risk Assessment</strong>&lt;br&gt;<a href="https://canvas.uw.edu/calendar?event_id=2063100&amp;include_contexts=course_1449285">link</a></td>
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<td>Tue Apr 27, 2021</td>
<td><strong>Article Report (April 27th)</strong>&lt;br&gt;<a href="https://canvas.uw.edu/courses/1449285/assignments/6290368">link</a></td>
<td>due by 6pm</td>
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<td>Tue May 4, 2021</td>
<td><strong>ENV H 593 A Sp 21: Current Topics In Risk Assessment</strong>&lt;br&gt;<a href="https://canvas.uw.edu/calendar?event_id=2063101&amp;include_contexts=course_1449285">link</a></td>
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<td>Tue May 11, 2021</td>
<td><strong>ENV H 593 A Sp 21: Current Topics In Risk Assessment</strong>&lt;br&gt;<a href="https://canvas.uw.edu/calendar?event_id=2063102&amp;include_contexts=course_1449285">link</a></td>
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<td>Tue May 18, 2021</td>
<td><strong>ENV H 593 A Sp 21: Current Topics In Risk Assessment</strong>&lt;br&gt;<a href="https://canvas.uw.edu/calendar?event_id=2063103&amp;include_contexts=course_1449285">link</a></td>
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<td>Tue May 25, 2021</td>
<td><strong>ENV H 593 A Sp 21: Current Topics In Risk Assessment</strong>&lt;br&gt;<a href="https://canvas.uw.edu/calendar?event_id=2063104&amp;include_contexts=course_1449285">link</a></td>
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<td>Tue Jun 1, 2021</td>
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|      |  Article Report 1  
(https://canvas.uw.edu/courses/1449285/assignments/6276334) |
|      |  May 11 article discussion  
(https://canvas.uw.edu/courses/1449285/assignments/6320231) |