ENV H 593 A Au 20: Current Topics In Risk Assessment

ENV H 593 A: Current Topics in Risk Assessment

Autumn Quarter 2020

Credits: 2

Instructor:

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Office Hours: By appointment

Course Times and Locations:

Day/Time: Monday, 2:30 pm - 4:20 pm
Location: Zoom

**Course Description:**

In this course, we will delve deeper into the concept of Green Chemistry and look at some of the tools and applications of Green Chemistry applications for improving chemical safety, global sustainability and policy reform by asking what success in this field looks like. How do we evaluate substitute chemicals and what are the measures of success? What short term and alternative approaches can we use to improve our decisions about safer chemical product usage? How can risk assessment and Life-cycle analysis inform the approaches used for alternatives analysis? We will explore specific timely examples including Bisphenol A and phthalate assessments. We will use the recent National Academy of Sciences (NAS) report, entitled “A Framework to Guide the Selection of Chemical Alternatives” to frame our discussions. Moreover, we will draw upon Industry approaches to illustrate challenges and applications.

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**Autumn 2020 Learning Objectives:**

1. Define Green Chemistry and identify targets for substitution
2. Demonstrate familiarity with alternatives assessments approaches from the NAS and discuss their relevance to risk assessment and risk management. How can principles of risk assessment inform substitution of alternative assessment?
3. What is Life-cycle analysis?
4. Compare and contrast multiple recommendations for alternatives assessments from European bodies, NAS, USEPA and others. What is missing? What is common? What do consumers say?
5. Articulate scientific and policy considerations arising from alternatives assessments.

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**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 and risk communication.
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.

https://canvas.uw.edu/courses/1397863
Course Requirements

Reminder this class is a journal club so please come to each session prepared to share your articles or sections with your colleagues. Please use the “Article Report Form Template” to structure your review. Please feel free to share a few slides that share these highlights in a manner you wish to share. 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 two 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 “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 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 or demonstration of the applications to your own research or interest area. Please use the Research Relevancy Report Template at the end of this syllabus and limit your response to 3 pages double spaced. You will be required to submit ONE research relevancy 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) 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
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.

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).

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/):

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 (mailto: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 or disability.uw.edu (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://register.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://register.washington.edu/students/religious-accommodations-request/).

- **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.
Article Report Form Template:

*PLEASE LIMIT RESPONSES TO 2 PAGES DOUBLE SPACED

Date:

Reviewer Name:

Title, Author, 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?

Research Relevancy Report Form Template:

*PLEASE LIMIT RESPONSES TO 3 PAGES DOUBLE SPACED

Date:

Reviewer Name:

Title, Authors, and Date of Paper:

- What was the purpose of this paper?
- What were the key results?
- Describe the most surprising findings from this quarter.
- How can you relate your research expertise to addressing these findings?
- Identify critical data gaps.

Course Schedule:

<table>
<thead>
<tr>
<th>Session #</th>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>10/05/20</td>
<td>Orientation to the course</td>
<td>No Required Readings</td>
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## Introduction to Green Chemistry

<table>
<thead>
<tr>
<th>Session</th>
<th>Date</th>
<th>Topic</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>Session 2</td>
<td>10/12/20</td>
<td>Role of Consumers (sustainable choices case study)</td>
<td>Student to post chosen article on discussion board.</td>
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<tr>
<td>Session 3</td>
<td>10/19/20</td>
<td>Role of Businesses (Procter and Gamble case study)</td>
<td>Student to post chosen article on discussion board.</td>
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<tr>
<td>Session 4</td>
<td>10/26/20</td>
<td>Role of Governments and NGOs</td>
<td>Student to post chosen article on discussion board.</td>
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<tr>
<td>Session 5</td>
<td>11/02/20</td>
<td>Role of Education (ACS Sessions)</td>
<td>Student to post chosen article on discussion board.</td>
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<tr>
<td>Session 6</td>
<td>11/09/20</td>
<td>QSAR</td>
<td>Student to post chosen article on discussion board.</td>
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<td>Session 7</td>
<td>11/16/20</td>
<td>Marine Litter</td>
<td>Student to post chosen article on discussion board.</td>
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<tr>
<td>Session 8</td>
<td>11/23/20</td>
<td>Future of Green chemistry (bio based polymer case study)</td>
<td>Student to post chosen article on discussion board.</td>
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<tr>
<td>Session 9</td>
<td>11/30/20</td>
<td>Example Applications to Research</td>
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<tr>
<td>Session 10</td>
<td>12/07/20</td>
<td>Example Applications to Research</td>
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### Topics and References

[https://canvas.uw.edu/courses/1397863](https://canvas.uw.edu/courses/1397863)
Session 1: Orientation and Introduction to Green Chemistry

No Readings Required

Session 2: Role of Consumers


Session 3: Role of Businesses


Session 4: Role of Governments and NGOs

Session 5: Role of Education  

Session 6: QSAR  
Session 7: Marine Litter


Session 8: Future of Green Chemistry


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**Session 9: Example Applications to Research**

Students find articles that are applicable to their own research.

**Session 10: Example Applications to Research**

Students find articles that are applicable to their own research.

**Course Summary:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Details</th>
<th>Time</th>
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<tbody>
<tr>
<td>Mon Oct 5, 2020</td>
<td><a href="https://canvas.uw.edu/calendar?event_id=1708478&amp;include_contexts=course_1397863">ENV H 593 A Au 20: Current Topics In Risk Assessment</a></td>
<td>2:30pm to 4:30pm</td>
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<td>Mon Oct 12, 2020</td>
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<tr>
<td>Date</td>
<td>Details</td>
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<td>Mon Nov 2, 2020</td>
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<td>Mon Nov 9, 2020</td>
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<td>Mon Dec 7, 2020</td>
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