

# ENV H 591 A Wi 21: Current Topics In Toxicology

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## ENV H 591 – Current Topics in Toxicology

Winter Quarter, 2021 - Thursdays 1:30-3:20; Zoom Meeting ID: 999 2984 0292

Instructor: Dr. Terry Kavanagh; 206-685-8479 ([tjkav@uw.edu](mailto:tjkav@uw.edu) (<mailto:tjkav@u.washington.edu>))

Appointments with Dr. Kavanagh by arrangement.

2 Credits, graded

**Course Description:** Critical reading, presentation, and writing up critiques of selected basic research publications in Toxicology and related Health Sciences fields. Constructive feedback will be provided on both presentations and written critiques.

The readings will reflect a variety of research topics, focusing on major current developments in Toxicology and Health Sciences.

The first class will be an introduction to the field, and involve instruction on critical reading of scientific papers, how to prepare a presentation, style of presentation, and key elements of good scientific writing. Students will then read and critically review selected articles every week. Each student is expected to present 2 times, and to provide one written critique of the chosen research article (for a total of 3 assignments). Each student will also participate in a group effort to construct a Poster on a selected current topic in toxicology. These posters will be presented (Shared over Zoom) at the end of the course. Students are also expected to participate in group-discussions and provide constructive comments and feedback on fellow students' presentations and poster presentations.

**Learning Objectives:** At the end of this course, the student will be able to:

1. Demonstrate skills in reading scientific literature in the field of Toxicology and related Health Sciences disciplines
2. Critically evaluate scientific literature in the field of Toxicology and related Health Sciences disciplines
3. Integrate different research areas in the field of Toxicology and related Health Sciences disciplines
4. Demonstrate critical thinking skills regarding both the content of scientific readings and the larger context in which they exist.
5. Demonstrate an ability to effectively deliver an oral and computer-based presentation (e.g. PowerPoint) summary of toxicology research articles, and understand the principles of original writing and how to avoid plagiarism
6. Demonstrate an ability to write a critical review of research articles in the field of Toxicology and the related Health Sciences.
7. Demonstrate the ability to participate in small group discussions.
8. Demonstrate skills in constructive criticism of peer presentations and fellow students' written critiques
9. Understand and evaluate professional journal articles in the toxicological sciences

## 10. Define the factors underlying high quality toxicology research articles

### Course Requirements:

1. Attend class sessions every week.
2. Read and critique the selected readings before the assigned class sessions.
3. Participate in class discussions.
4. Present a research article on 2 separate occasions.
5. Provide a written critique of a selected research article.
6. Provide constructive feedback for fellow students on their presentations/posters.

<b>Grading:</b>	<b>Points</b>
Presentation of research articles (2 times; 30 points each)	60 pts
Written critique of a research article	30 pts
<u>Participating in class discussions/poster/feedback</u>	<u>10 pts</u>
Total	100 pts

Grading of individual presentations of research articles will be based on student peer scoring (1/3) and Instructor's scoring (2/3). For example, for each research article presented, the best score is 30 points, of which the instructor will give a score of 0-20 (20 being the best) and peers will give a score of 0-10 (10 being the best). The written critique will be of the article that the student presents, with the expectation that this will be between 5 – 10 pages (double spaced), and will cover the introduction, methods, interpretation of results and overall conclusions.

**Readings:** No required text. Articles will be selected by students in consultation with the instructor. Students must indicate to the instructor the article they will present by 5 pm on the Tuesday preceding their presentation. Presentation slide files (Power Point; pdf format is also acceptable) should be emailed to the instructor no later than 5 pm on the Wed preceding the presentation. Articles and Slides will be distributed to the rest of the class by the instructor via email. They will also be placed on the course website by the instructor.

### Course Absence Policies:

It is your responsibility to notify the instructors by the end of the first week of any conflicts you may have with the course schedule.

There will be no make-up presentations unless approved by the instructor in advance. If a presentation is missed because of an unexcused absence, it will not be rescheduled. Contact your instructor prior to or same day to notify him that you are unable to take the exam.

Your instructor will then set a date for a makeup presentation, contingent on the student showing as soon as possible a valid medical note issued by a medical professional on the original exam date. For other reasons (car accident, death in the family etc.), arrange to speak with the instructor to explain the

circumstances. Within reason we will expect to be notified prior to or the day of the exam for these instances.

If you have any concerns about the class, you may contact Dr. Kavanagh by phone or email to arrange a zoom meeting. If you are still not satisfied with the response that you receive, you may contact the Department Chair. You may also contact the Graduate School at G -1 Communications Bldg, by phone at (206) 543-5139 or by email at [raan@uw.edu](mailto:raan@uw.edu)

### **The University of Washington and 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>) (Links to an external site.). 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.

### **University of Washington general policy statement:**

"Admission to the University carries with it the presumption that students will conduct themselves as responsible members of the University community. As a condition of enrollment, all students assume responsibility to observe standards of conduct that will contribute to the pursuit of academic goals and to the welfare of the University community. That responsibility includes, but is not limited to:

1. Practicing high standards of academic and professional honesty and integrity;
2. Refraining from any conduct that would violate the rights, privileges, and property of others;
3. Refraining from any conduct that would substantially disrupt or materially interfere with University operations;
4. Refraining from any conduct that could reasonably cause harm to or endanger the health, safety, or welfare of other persons; and
5. Complying with the rules, regulations, procedures, policies, standards of conduct, and orders of the University and its schools, colleges, departments, units, and programs."

<https://www.washington.edu/admin/rules/policies/SGP/SPCH210.html>

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For web-resources on understanding and avoiding plagiarism, please see:

<https://guides.lib.uw.edu/hsl/writer/plagiarism> (<https://guides.lib.uw.edu/hsl/writer/plagiarism>)

### **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 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.

### **Commitment to multicultural inclusion:**

The UW School of Public Health seeks to ensure all students are fully included in each course. We strive to create an environment that reflects community and mutual caring. We encourage students with concerns about classroom climate to talk to your instructor, your advisor, a member of the departmental or SPH Diversity Committee and/or the program director. DCinfo@uw.edu is a resource for students with classroom climate concerns.

### **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/>)). 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/>)).

### **DRAFT Presentation Schedule (subject to revision):**

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<b><u>Date</u></b>	<b><u>Suggested Topic</u></b>	<b><u>Suggested Presentors (TBD)</u></b>
01/07/21	Introduction to the class /Selection of Topics	Kavanagh
01/14/21	Topic 1 e-Cigs	Chen, Dai, Hansen

01/21/21	Topic 2	Cadmium	Kim, Lim, Phillips
01/28/21	Topic 3	Pesticides	Marecaux, Matson, Nguyen
02/04/21	Topic 4	Endocrine Disruptors	Kingston, Soto, Suh
02/11/21	Topic 5	PFAS: PFOA	Chen, Dai, Hansen
02/18/21	Topic 6	Microbiome	Kim, Kingston, Lim
02/25/21	Topic 7	Lead	Marecaux, Matson, Nguyen
03/04/21	Topic 8	Neurotox	Phillips, Soto, Suh
03/11/21	Posters		Poster 1: Chen, Dai, Hansen  Poster 2: Kim, Kingston, Lim
03/19/21	Posters	<b>Note: 2:30 - 4:20 pm</b>	Poster 3: Marecaux, Matson, Nguyen  Poster 4: Phillips, Soto, Suh

### Some suggested topics:

Air pollution from wildfires

Traffic related air-pollution; diesel exhaust, tire antioxidant oxidation product (6-PPD-quinone)

Endocrine disruptors

Flame retardants (PBDEs; hexabromocyclodecanes in cyclic aliphatic bromide cluster)

Heavy metals (e.g. cadmium, mercury, arsenic, lead, others...)

Engineered nanomaterials

Microplastics

eCigarettes & EVALI (e-cigarette or vaping associated lung injury); interaction with SARS-CoV-2

Marijuana and constituents – THC, CBD and other cannabinoids; both smoked and consumed

Prescription drugs and the synthetic opioid epidemic

Pesticides – Glyphosate; neonicotinoids; atrazine, pyrethroids, many others

PFOA/PFOS/PFAS the “forever chemicals” and substituted alternatives

Solvents: N-methylpyrrolidone, Trichloroethylene, 1-bromopropane, 1,4-dioxane

Plant, animal, or microbial toxins

Many others to choose from. Let’s discuss!

## Course Summary:

Date	Details	Due
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