
ENV4001H: Graduate Seminars in Environment and Health Winter 2025

I. CONTACTS

Instructor: Ranaivo A. Rasolofoson, Assistant Professor, School of the Environment
Email: ranaivo.rasolofoson@utoronto.ca

Student Seminars: Wednesdays, 2:00-5:00 PM
Public Seminars: Wednesdays, 2:00-5:00 PM

II. COURSE OVERVIEW

Course Description: Over the past century, the world has made significant progress fighting disease thanks to rapid scientific, economic, and technological advances. At the same time, the rapid population and consumption growth fueled by these advances put increasing pressure on the world's natural systems (e.g. forests, oceans, climate). As these natural systems support the food we eat, the air we breathe, the water we drink, and affect our exposure to diseases, their transformations (e.g., climate change, land use change, pollution, water scarcity, urbanization, biogeochemical cycle change, biodiversity loss) have been associated with an increasing burden of disease. This association has led to concerns that continuing transformations of natural systems could counter or even reverse the progress we made in the fight against diseases. There is therefore a pressing need to study the relationships between natural systems and human health. This course introduces students to various issues related to the links between natural system transformations and human health by providing an academic environment of inquiry and dialogue where graduate students from various disciplines can exchange ideas, information and insights. Through participation in the affiliated public environment and health seminar series and student-led seminars, the aim is to expose the students to the many ways that issues related to the environment and health are framed, examined, discussed and addressed. The course will stimulate students to reflect on this diverse discussion and to integrate their work into a broader context and perspective. Students will have the opportunity to explore linkages between natural systems and health outcomes as these intersect with environmental and health policy and socio-economic contexts.

Educational Objectives: Upon course completion, students will be expected to:

- Have an understanding of the complex, interdisciplinary nature of environment and health issues,
- Have an understanding of the importance of cross-disciplinary dialogue to fully comprehend how human health and the environment are interconnected and to develop effective interventions, and
- Have acquired the skills necessary to research and critically assess scholarly information on topics related to environment and health and to communicate them in a manner that fosters interdisciplinary dialogue and engagement.

III. HOW THE COURSE IS ORGANIZED

Course Delivery:

The course uses Quercus for the provision of course materials, submission and completion of assignments and important communications between instructor and students. To access the Quercus-based course website, go to the UofT portal login page at <http://portal.utoronto.ca> and log in using your UTORid and password.

This course is composed of alternating student-led seminars and public seminars featuring guest speakers from various disciplinary and professional backgrounds, spanning the natural science, social science and humanity disciplines and academic and non-academic sectors. The course content depends on the topics presented by the guest speakers (see the course schedule at the end of the syllabus for topics and dates). A student-led seminar covers and prepares for the topic to be presented by a guest speaker the following week. A student or a group of students (depending on the number of enrolled students) selects a scheduled topic, identifies readings related to the topic, and leads and facilitates a class discussion based on these readings (students and instructor only). The readings are expected to be approved by the instructor and then shared to the rest of the class in Quercus. During the discussion students are encouraged to introduce or highlight related ideas, concepts, methodological/conceptual frameworks, etc. from their own respective disciplinary backgrounds to provide a forum of interdisciplinary exchange and discussion. **Please note that students need to select a scheduled topic on the first day of class. The first student-lead seminar will take place in the second week (January 15th).**

Please note that this is a seminar course. Students are expected to attend all seminars and actively participate in classes. Students are expected to be prepared for seminars (assigned readings have been completed and deep and critical thought has been given to the topics).

Prerequisites: None

Enrolment Restrictions: Enrolment preference will be given to students who are enrolled in the Graduate Collaborative Specialization in Environment and Health, since ENV4001 serves as the core course for this specialization. Nevertheless, students from other graduate programs who have an interest in environment and health issues, and who are willing to share a collaborative learning experience, are also invited to enroll. For a description of the Environment and Health Specialization, please see: <https://environment.utoronto.ca/graduate/collaborative-specializations/>

Evaluation: Students are required to attend all of the public environment and health seminars scheduled between January and April 2025. The evaluation break-down is as follows:

- Seminar participation (ongoing): 20%
- Literature review proposal (Due: Feb. 5th, 2025): 15%
- Seminar presentation/facilitation (Date: TBD): 20%
- Oral presentation of research paper (Date: April 2nd, 2025): 15%
- Literature review paper (Due: April 2nd, 2025): 30%

Seminar Participation / Class Discussion

Students are required to engage in discussing the assigned readings (student-lead seminars) and guest speakers' presentations (public seminars). Below are some specific examples of high-quality participation we will be observing and noting (adapted from Andrew Jones, Univ of Michigan and Kathryn Fiorella, Cornell University):

- Be in class on time
- Ask a question or make a comment that shows you are interested in what another person says, and/or encourages others to elaborate on something they have already said or done.
- Make a comment that underscores the linkage between two or more students' contributions. Contribute something that builds on, or springs from, what someone else has said or done.
- Make comments that connect the assigned readings or guests' presentations to other resources (e.g., peer-reviewed articles, websites, videos, news) not covered in the syllabus or materials covered in previous seminars/readings.
- Make a summary observation that takes into account several people's contributions, and which touches on a recurring theme in a discussion.
- Find a way to express appreciation for the learning you have gained from a discussion. Try to be specific about what it was that helped you.
- If you have a critical comment, make it diplomatically, focusing on the issue at hand, and not on the people with whom you have a differing viewpoint.

Literature Review Proposal (Due: February 5, 2025): Students will identify an environment and health-related topic of interest that will be the focus of their literature review papers due at the end of the course. Students will prepare an initial literature search for their topics and submit a research paper proposal (electronically via Quercus) on or before February 5, 2025. Students are not restricted to topics addressed in the course, but they must be related to the environment and health. The proposal will be approximately 3-4 pages in length (1.5 spacing, font: Times New Roman 12 point) and will include the following information:

- A brief background to the topic of focus,
 - Provide a summary, including a description of main concepts of topic, which is detailed enough to inform reader about topic to be explored. This should include a description of topic's significance in an environmental health context (with reference to sources of information/peer reviewed literature)
- A succinct statement of purpose or goal or research question of focus;
- A description of the research strategy that was employed in the literature search, as follows
 - Identification of the keywords or parameters used in the search
 - Description of any limits applied such as year of publication, language, sources, as well as the rationale for these limits
 - Identification of the search engine(s) used/databases explored (e.g. Scopus, Medline, Web of Science)
 - A description of how the search was refined and narrowed;

- A summary of the results, including a description of the number of “hits” obtained and how this may have changed with the placement of additional search limits; and
- An annotated bibliography for the “top ten” articles or other scholarly sources chosen from the literature search as an initial starting point. Students are expected to use reliable sources of information and data, specifically peer-reviewed sources and government reports or data (e.g., Environment Canada, Health Canada, U.S. EPA, UNDP, FAOSTAT, WHO). Students are highly encouraged to use reference manager software (e.g., Mendeley, EndNote, Zotero, ...) to keep track of your references. References must be formatted following the American Psychological Association (APA) 7th Edition reference style. Alongside each reference, students must provide 3-5 sentence summary of **1**) the argument of the source: its thesis (or research question, or hypothesis), its major methods of investigation, and its main conclusions; and **2**) the relevance and value of the source to selected topic.

Commonly used conceptual frameworks in the public health sciences such as PEO (Population, Exposure, Outcome) may be adopted for your literature research strategy. You may also find that a concept map/table is helpful, too. Please refer to the Writing Resources in Quercus for further assistance.

An instruction librarian from the Gerstein Library, Vincci Lui, will attend class on January 17th to do a 50-minute library search workshop on how to best navigate the electronic resources at UofT to perform a literature search in line with expectations for proposals and final papers. Valuable tips for searching high quality, peer reviewed literature, using appropriate environment and health related databases, scoping for topics, applying helpful tools such as Boolean terms and operators, etc., will be demonstrated as part of this. This has been scheduled for the first hour of class (from 4:10 to 5:00 PM).

Seminar Facilitation: The student-facilitated seminars (held each week in advance of the scheduled public talks listed at the end of this syllabus) provide an opportunity for the class to more fully explore the topics to be addressed (Dates: in accordance with choice of seminar topic). In consultation with the course instructor, student facilitators will choose relevant articles of interest to be read by the rest of class prior to the student seminars. Articles must be peer-reviewed and accessible via our electronic library system. Full article citations and links to readings (which should not exceed 30-40 pages in total) are to be made available a minimum of one week in advance of the student-led seminars to be posted on the course’s website on Quercus. For the seminar facilitation, students are expected to:

- Choose quality and relevant articles for background reading (peer-reviewed);
- Make an attempt to identify important concepts or issues related to the topic and, perhaps, reflect on the position/approach of the disciplinary background of class participants to provide the focus of readings and discussion,
- Inform the course instructor of the chosen readings far enough in advance that they can be made accessible at least one week prior to the seminar;
- Make a brief informal presentation at the beginning of the student-led seminars;
- Suggest questions to stimulate and focus the discussion;

- Fully participate and moderate in-class discussion, as well as helping to moderate break out groups that will be done as part of the public seminar talks (further details to be provided when the course begins).

PLEASE NOTE: The first student-led seminar will take place on January 15th, 2025, focusing on the topic of the public seminar scheduled for the week thereafter (i.e. Jan. 22nd). Given the short timeline for students to prepare for this, topics for student-led seminars will need to be decided on in the first class on January 8th, 2025.

Oral Presentation of Literature Review Topic (Date: April 2nd, 2025): For the last class, students will each present a 10-minute synopsis of their literature review paper topic and its importance. The presentation will be followed by 1-2 questions from the students and the course instructor. Students should adopt the same professionalism and discipline that they would follow if they were making a presentation at a scholarly conference. Each student will be evaluated on the following criteria:

- Timing – how well the student adhered to the limitations set for the presentation
- Clarity and organization of content presented (aimed at a non-specialist audience)
- Quality of the slide
- Quality of the responses to questions
- Speaker’s demeanor – i.e., clarity of articulation, professionalism, confidence with material

Literature Review Paper (Date: April 2nd, 2025): The lit review paper, due on the date of the last class, will focus on an environment and health-related question or issue that relates to the student’s area of research and/or academic interests. Papers should be 4,000-5,000 words (not including references) and include the following:

- Introduction to the topic, including a description of its importance in an environment and health context. For this, it is expected that students provide a more detailed and rigorous discussion (including more references to literature) than that outlined in the initial proposal. The introduction should also include a clear statement regarding the paper’s purpose, goal, or research question. This may be the same as that used in the proposal. However, in most cases, it is expected that the original stated the purpose, goal or research question has undergone refinement during the information gathering and analysis phase.
- Methods: Similar to that expected in the public health sciences, papers should include a method section that details the methods used to identify scholarly, literature sources for review, including a description of the keywords and databases which were used (e.g. Medline) and the inclusion/exclusion criteria employed to choose articles. The methods should be kept very brief and are expected to be more refined relative to those documented in the proposals submitted earlier in the course.
- Discussion: This section is expected to comprise the bulk of the paper; involving an in-depth examination, analysis and discussion of current (peer-reviewed) literature on the topic. Students are expected to not only assess the available evidence but also the current state of knowledge and scientific rigor on the chosen topic in a systematic, objective

manner. Issues that may be addressed as part of the discussion include identified gaps in knowledge, strengths/limitation in policy/regulations, an identification of needs in terms of future research and political action, etc., as they relate to the specific topic areas.

- **References Cited:** Students must list the references cited in the paper in a separate section at the end, using a recognized format (see below for further details). This should **ONLY** include those references cited in the paper.

Papers are to be submitted electronically as a Microsoft Word (.doc and .docx) file or as a PDF via the course's website on Quercus on (or before) the due date (Deadline: 11:59 PM).

Please note: This course will be using **Turnitin** for the submission of assignments on the course's website in Quercus. Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (<https://uoft.me/pdt-faq>). If you object to using Turnitin, please see the course instructor to establish appropriate alternative arrangements for submission of your written assignments prior to the submission deadline.

V. COURSE POLICIES

It is recommended that students pay attention to the announcements posted on the course's website on Quercus, as this will be the primary way the instructor will communicate important messages, including ones of an urgent matter should unexpected events occur.

Generative artificial intelligence (AI): The use of generative artificial intelligence tools and apps is strictly prohibited in all course assignments, unless explicitly stated otherwise by the course instructor. This includes ChatGPT and other AI writing and coding assistants. Use of generative AI in this course may be considered use of an unauthorized aid, which is a form of academic misconduct and will be dealt with accordingly. This policy is intended to promote your learning and intellectual development and to help you achieve the learning outcomes, especially those relating to the use of public health approaches to conduct research.

Late Penalties and Deadline Extensions: Late papers will be reduced by 3% of the assignment grade per day (including weekends). Extenuating circumstances may arise that impact your ability to complete an assignment on time. Please discuss these issues with your instructor to make alternative arrangements for submission. Students are expected to discuss these issues with your instructor **before or on the assignment due date** to make alternative arrangements for submission. Students who are absent from class for any reason (e.g., COVID, other illness or injury, family situation) and who require consideration for missed academic work should report their absence through the online Absence Declaration Tool on ACORN (in the Profile and Settings menu). The decision to waive the penalty for late assignments for students that contact the instructor **AFTER** the deadline will be made at the instructor's

discretion.

VI. INSTITUTIONAL POLICIES AND SUPPORT

Academic Integrity: Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (<https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:

1. Using someone else's ideas or words without appropriate acknowledgement (including the use of phrases verbatim without quotation marks, even if you provide the appropriate reference in brackets or as a footnote).
2. Submitting your own work in more than one course without the permission of the instructor.
3. Making up sources or facts.
4. Obtaining or providing unauthorized assistance on any assignment.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see <https://www.academicintegrity.utoronto.ca/>).

Accessibility Needs: Students with diverse learning styles and needs are welcome in this course. The University of Toronto is committed to accessibility: if you require accommodations for a disability, or have any other accessibility concerns about the course, please register with Accessibility Services as soon as possible (<https://studentlife.utoronto.ca/task/register-with-accessibility-services/>).

Contact information: Accessibility Services Reception: 416-978-8060; Email: accessibility.services@utoronto.ca

Additional Services and Support: The School of Graduate Studies has a range of resources and supports for graduate students (see: <https://www.sgs.utoronto.ca/gradhub/resources-supports/>)

Some of the following may be of particular interest:

- General student services and resources at [Student Life](#)
- Health and wellness services at <https://studentlife.utoronto.ca/department/health-wellness/>
- Full library service through [University of Toronto Libraries](#)
- Resources on conducting online research through [University Libraries Research](#)

- Graduate writing groups at <https://studentlife.utoronto.ca/program/graduate-writing-groups/>

Course Schedule Winter 2025 (Subject to Change)

Dates	Seminar type/location	Topic/Seminar Title
Jan 8	Student seminar (ES 1042)	Course Introduction
Jan 15	Student seminar (ES 1042)	<u>Student-led discussion of topic to be presented by a guest speaker on Jan 22: Urban green spaces (forests) and human health</u>
Jan 22	Public seminar (ES 1042)	Title: <i>The 3+30+300 rule for greener and healthier cities - background, implementation, and reflections</i> Speaker: Prof. Cecil Konijnendijk (See following table for speaker information and seminar abstract)
Jan 29	Student seminar (ES 1042)	<u>Student-led discussion of topic to be presented by public speaker on Feb 5: One Health and zoonotic disease</u>
Feb 5	Public seminar (ES 1042)	Title: Speaker: Prof. Sam Mubareka (See following table for speaker information and seminar abstract)
Feb 12	Student seminar (ES 1042)	<u>Student-led discussion of topic to be presented by public speaker on Feb 26: Sustainable health care and system</u>
Feb 19	<i>Reading week</i>	
Feb 26	Public seminar (ES 1042)	Title: Speaker: Dr. Rashmi Chadha (See following table for speaker information and seminar abstract)
March 5	Student seminar (ES 1042)	<u>Student-led discussion of topic to be presented by public speaker on March 12: Conserving rainforests and improving human health by listening to local communities</u>
March 12	Public seminar (ES 1042)	Title: <i>Regenerating Rainforests by Listening to Communities: A Model for Planetary Health</i> Speaker: Nina Finley (See following table for speaker information and seminar abstract)

March 19	Student seminar (ES 1042)	<u>Student-led discussion of topic to be presented by public speaker on March 26:</u> <i>Fisheries, food systems, and human health</i>
March 26	Public seminar (ES 1042)	Title: Speaker: Prof. Katie Fiorella (See following table for speaker information and seminar abstract)
April 2	Student seminar (ES 1042)	Student presentations of final papers

Scheduled Speakers and Related Information

Public Speakers	Biographies	Titles & Abstracts of Public Seminars
Cecil Konijnendijk , Co-lead, Nature Based Solutions Institute	Cecil has 30 years of experience studying, teaching, and advising on aspects of urban forestry and nature-based solutions. From Utrecht, The Netherlands, he co-leads the Nature Based Solutions Institute, a think tank for the evidence-based greening of cities. Cecil has held full and visiting professorships in Belgium, Canada, China, Denmark, Hong Kong, and Sweden. He helped found the leading academic journal <i>Urban Forestry & Urban Greening</i> , and edited seminal textbooks such as ‘Urban Forests and Trees’ and ‘The Routledge Handbook of Urban Forestry’. Early in 2024, his new book ‘Rethinking Urban Green Spaces’ was published by Edward Elgar Publishing. Cecil has advised international organisations such as the United Nations, as well as national and local governments in more than 30 countries. In 2021 he launched a new evidence-based guideline for urban greening, the so-called 3+30+300 rule. Cecil is passionate about building meaningful relationships between people and nature to create better urban places.	Title: The 3+30+300 rule for greener and healthier cities - background, implementation, and reflections Abstract: In support of local urban greening programs, the 3+30+300 rule (or principle) sets evidence-based guidelines for visible green (seeing at least 3 larger trees from every home, place of work, and school), surrounding green (no less than 30% tree canopy cover in every neighbourhood), and recreational green (at most 300 metres to the nearest, high-quality public green space). Since its launch in early 2021 by the seminar presenter, in the midst of the Covid19-pandemic when the importance of visible and nearby nature became very clear, the rule has been adopted by municipalities, regional and national governments, and international organizations across the world. This seminar will focus on this rule or guideline, presenting the background and research behind it. Current experiences with implementation of the rule will also be discussed. Focus will be, among other, the diversity aspect of 3+30+300, as the rule could in principle be implemented without due care for diversity concerns, especially when it comes to the 3 and 30 components. What can be done to promote local biodiversity through the rule? What are some of the principles to work with so that a healthy and vital urban forest is created? But also, how does implementation of the rule consider ‘tree equity’ and the diverse demands for, and perceptions of urban nature held by different socio-cultural groups? The webinar shows how the concept of biocultural diversity, which recognizes that biodiversity and people/cultural diversity are closely entwined, can provide a useful lens for this. Future perspectives and recommendations for using 3+30+300

		jointly with other principles and frames that specifically focus on enhanced biocultural diversity will be presented.
<p>Sam Mubareka, MD, FRCPC at Sunnybrook Health Sciences Centre; Associate Professor at the Department of Laboratory Medicine and Pathobiology, Faculty of Medicine, University of Toronto</p>		

Rashmi Chadha, Co-founder of Doctors for Planetary Health; consulting physician with VGH's Complex Pain and Addiction Service; and a clinical assistant professor in UBC's Department of Family Practice.

<p>Nina Finley, Research Manager, Health in Harmony</p>	<p>Nina Lester Finley is the research manager of Health In Harmony, a non-profit organization that supports Indigenous communities of rainforests. Over the past ten years, Nina has conducted disease ecology research in Ecuador, Brazil, Madagascar, Indonesia, Malaysia, the United States, the United Kingdom, and Nunavut. As a Marshall Scholar, she writes essays to examine the ruptured relationships between humans and microbes under colonialism. Her work has been published in journals from PLOS Medicine to Tropical Natural History and featured in The New York Times. Nina holds a BA in biology-environmental studies; an MSc in One Health; and an MA in creative non-fiction writing. Nina is currently a doctoral student at the London School of Hygiene and Tropical Medicine. For her thesis, she is working alongside rice farmers of Madagascar’s rainforests to test solutions for living well with schistosomes—freshwater parasites that move between snail and human hosts.</p>	<p>Title: Regenerating Rainforests by Listening to Communities: A Model for Planetary Health</p> <p>Abstract: Health In Harmony is an international non-profit organization with a mission to regenerate rainforests by listening to communities. Our method is Radical Listening. Since 2007, we have spent hundreds of hours listening to rainforest communities across Indonesia, Madagascar, and Brazil. Specifically, we have listened to their answer to the question, “What would you need as a thank-you from the global community to be able to protect your forest?” The answers have been different everywhere, but three key themes emerged across geographies: access to high-quality healthcare, training in alternative livelihoods, and support for youth education. The reason we call it Radical Listening, instead of just "listening," is that we invest in precisely the solutions that communities design – and the communities have been right. A study conducted by Stanford University and published in the Proceedings of the National Academy of Sciences analyzed the first ten years of data from the community-designed health, livelihood, and education programs in Indonesian Borneo. The results: a 70 percent decrease in deforestation compared to a composite control of all comparable Indonesian national parks, equating to \$65 million in averted carbon emissions, a twelve times return on investment. It turns out, trees are the most effective tool on earth for storing carbon. Providing healthcare also supported people, resulting in a 67% drop in infant mortality and significant decreases in chronic cough, fever, and unintended weight loss. Human and ecosystem health are inextricably linked – neither can thrive without the other – and investing in communities is a win-win situation for both. Health In Harmony is now partnering with Pawanka Fund, Woodwell Climate Research Center, and hundreds of communities across the equator with the audacious goal to protect half the world’s rainforests before we reach irreversible tipping points for climate and health.</p>
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Katie Fiorella , Associate Professor, Department of Public and Ecosystem Health		
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