

***"HUMAN HEALTH AND THE ENVIRONMENT"***  
***(EESA10 H3-Y)***

**Instructor:** Dr. Silvija Stefanovic

**Lectures:**

**L30:** online synchronous (Wed. 7-9pm) live or pre-recorded; In person (see below for more information)

**L60:** online asynchronous

**Office hours (Zoom link will be provided):** Tue. 1-2pm

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**TAs:** Bhargav Patel (Lectures 3-7);  
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**The intent of the course:**

Because of pollution, our surroundings are becoming increasingly hazardous to our health. The past century has seen intense industrialization characterized by the widespread production and use of chemicals and the intentional and unintentional disposal of a wide range of waste materials. This course explores the relationship between the incidence of disease in human populations and environmental pollution. Emphasis will be placed on understanding where and what pollutants are produced, how they are taken up by humans and their long-term effects on health; the role of naturally-occurring carcinogens will also be examined. The course will include a view of risk assessment and toxicology using case studies. No prior knowledge of environmental or medical science is required.

**Suggested readings (not required for the exams):**

"Understanding Environmental Health: How We Live in the World" Nancy Irwin Maxwell, 2014, Jones & Bartlett Learning (available from the bookstore)

**Lectures (required for the exams):**

First lecture for students enrolled in L30 option is online synchronous on Wed. Jan. 12<sup>th</sup> 7 - 9pm. The Zoom link will be provided. The lecture #1 will be recorded and posted on Quercus for students enrolled in L60 option. The other lectures are pre-recorded in real classroom set up and they will be posted on Quercus every week on Wed. at 7pm for both L30 and L60 option. The lectures will remain posted until the end of the semester. This will be done until at least Jan. 31<sup>st</sup>. The students in L30 option will be notified if the class will be moved to in person teaching mode after this time. This will depend on the government and university COVID-19 recommendations.

The lectures you will watch online are pre-recorded with the students present in the classroom. You will be able to hear students' questions and the instructor's answers or any discussion that would normally happen in the live lecture set up. The lecture slides will be posted in \*.pdf format on Quercus. You will require Adobe Reader to open the files (available free of charge at [www.adobe.com](http://www.adobe.com)).

**Grading**

Discussion	20%
Midterm Exam	40%
Final Exam	40%

### **Supplemental Material and Discussion Board (required for the exams):**

The discussions will start on Wed. Jan. 26<sup>th</sup> at 9 pm (after the lecture). TAs will post supplemental media resources (e.g., videos and articles) weekly on Quercus for the students to review. These resources will be related to the lecture taught on that day (also called “topic of the week”). It is strongly suggested you watch the lecture before you participate in your discussion assignment. TAs will also post the questions you are expected to discuss in your response and they will regularly monitor the Discussion Board linked to the posted material.

In order to incentivize your efforts on the discussion board, you will be divided into ten groups. Every week people in ONE particular group will be required to answer the questions on the discussion board to get their mark. **For the mark, you need to participate in discussion only ONCE for the whole term.**

**Please check Quercus to find out your group number.** Below are the lecture/week numbers and dates when each group should participate in discussions.

<b>Group #</b>	<b>Lecture #</b>	<b>Week #</b>	<b>Issue Date: Wednesday @ 9 pm</b>	<b>Due Date: Monday @ 11:59 pm</b>
<b>Group 1</b>	Lecture 3	Week 3	January 26	January 31
<b>Group 2</b>	Lecture 4	Week 4	February 2	February 7
<b>Group 3</b>	Lecture 5	Week 5	February 9	February 14
<b>Group 4</b>	Lecture 6	Week 6	February 16	February 21
<b>Group 5</b>	Lecture 7	Week 7	March 2	March 7
<b>Group 6</b>	Lecture 8	Week 8	March 9	March 14
<b>Group 7</b>	Lecture 9	Week 9	March 16	March 21
<b>Group 8</b>	Lecture 10	Week 10	March 23	March 28
<b>Group 9</b>	Lecture 11	Week 11	March 30	April 4
<b>Group 10</b>	Lecture 12	Week 12	April 6	April 11

The discussion will be available to the assigned group on **Wednesday at 9 pm**. You can post only your opinion on the question asked for 5 days (**until Monday at 11:59 pm**) after the supplementary material is posted. Please make sure you post the specific answer and not your notes in the response. You have to submit your discussion first and then you will be able to see what other students wrote. You will not be able to delete or edit your comments once they are submitted but you can feel free to enter more NEW points (copying and pasting opinions of others or being repetitive will not be considered as a substantial contribution) if you like before the due date on Mondays at 11:59 pm. **However, the only first submission will be marked.**

You will be credited only for the week when it was mandatory for you to take part in the discussion. For example, people in a group of Lecture 7 will not receive their mark if they miss answering during the week of Lecture 7 and then request the accommodation to answer during the week of Lecture 8. **The extension will be granted only if the proper documentation is provided within 3 business days after the assignment due date. Failing to follow these instructions will result in a mark of 0 for discussion.**

After the due date, all students are responsible to watch ALL supplementary videos or reading material from lecture 3-12, as they will be testable for your midterm and final exam.

### **Midterm:**

The 2-hours midterm exam will be held during the mid-term period, time and date TBA. The student will be informed about the mode of the midterm (in person or online). This will depend on the government and university COVID-19 recommendations.

The exam will consist of 80 Fill in the Blanks, Matching, MCQs, Multiple Dropdowns and True/False questions (60 questions from the lecture material and 20 questions from the supplemental material). The midterm will be

worth 40% of the final grade. The midterm will draw from lectures 1-6 and includes lecture notes and supplemental material posted on Quercus (videos, articles). The suggested readings are not for the exam. More details about the exams will follow.

If the midterm is online, it will be closed book and questions and answers will not be available for students to review after the exam. Also, the students will need to complete a Midterm Exam Take-Home Honour Pledge Questions. The completion of the pledge is mandatory and not completing will be considered as an Academic Integrity Violation issue and students' names will be sent to the Departmental Chair (DPES) for assessment. More details about the pledge submission will follow.

### **Missed Midterm Policy:**

If you miss midterm you have to formally self-declare absences through DPES on-line self-declaration form (<https://www.utsc.utoronto.ca/physsci/self-declaration-absence-form-0>). These on-line requests will be sent directly to your instructor, as well as to the department.

The form is conveniently placed on the front page of DPES website, just underneath the picture with the "smiley faces" during the groundbreaking of our EV building (<https://www.utsc.utoronto.ca/physsci/welcome-physical-environmental-sciences>).

Please note that you still have to submit your absence on-line requests through ACORN.

Both submissions have to be done **within 3 business days** after the day of the regular midterm. The self-declarations submitted after this time will not be considered.

After checking the validity of your self-declarations, the day and time of the makeup midterm will be announced on Quercus. If you simply "miss" the mid-term, you will receive a mark of zero for it.

If you miss the makeup midterm with a verifiable reason after you submit the self-declarations again, the weight of the midterm will be transferred to the final exam (in this case your final will be worth 80%).

### **Final Exam:**

The 2-hours final examination is worth 40% of the final grade for the course. The student will be informed about the mode of the midterm (in person or online). This will depend on the government and university COVID-19 recommendations.

The exam will consist of 80 Fill in the Blanks, Matching, MCQs, Multiple Dropdowns and True/False questions (60 questions from the lecture material and 20 questions from the supplemental material). **The final exam is NOT cumulative.** The final exam will draw from lectures 7-12 and includes lecture notes and supplemental material posted on Quercus (videos, articles). The suggested readings are not for the exam. More details about the exams will follow.

If the final is online, it will be closed book and questions and answers will not be available for students to review after the exam. Also, the students will need to complete a Final Exam Take-Home Honour Pledge Questions. The completion of the pledge is mandatory and not completing will be considered as an Academic Integrity Violation issue and students' names will be sent to the Departmental Chair (DPES) for assessment. More details about the pledge submission will follow.

### **Accessibility Statement:**

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations at (416) 287-7560 or [ability@utsc.utoronto.ca](mailto:ability@utsc.utoronto.ca).

**Other Course Policies:**

Plagiarism will not be tolerated. Each student is expected to submit **individual work** for grading. It is an academic offence to plagiarize and those who do will be subjected to University procedures (see the University calendar).

**Lecture Topics:**

<b>Lecture/Week 1.</b> Introduction, ground rules, expectations and course structure. Understanding the Health Effects of Environmental Hazards	Jan. 12 <sup>th</sup>
<b>Lecture/Week 2.</b> Airborne Hazards and Human Health	Jan. 19 <sup>th</sup>
<b>Lecture/Week 3.</b> Waterborne Hazards and Human Health	Jan. 26 <sup>th</sup>
<b>Lecture/Week 4.</b> Chemical Hazards and Human Health	Feb. 2 <sup>nd</sup>
<b>Lecture/Week 5.</b> Heavy Metals and Human Health; Case study: CCA (Chromated Copper Arsenate) wood preservative	Feb. 9 <sup>th</sup>
<b>Lecture/Week 6.</b> Radiation and Electromagnetic Hazards and Human Health	Feb. 16 <sup>th</sup>

**READING WEEK****Feb. 23<sup>rd</sup>**

<b>Lecture/Week 7.</b> Biological Hazards and Human Health	Mar. 2 <sup>nd</sup>
<b>Lecture/Week 8.</b> Foodborne Hazards and Human Health	Mar. 9 <sup>th</sup>
<b>Lecture/Week 9.</b> Toxicology - The science of Poisons	Mar. 16 <sup>th</sup>
<b>Lecture/Week 10.</b> The Science of Risk Assessment; Precautionary Principle;	Mar. 23 <sup>rd</sup>
<b>Lecture/Week 11.</b> Environmental Hazards to Specific Populations: Children and Women; Occupational Hazards; Growing Population and Overconsumption and Human Health; War and Human Health;	Mar. 30 <sup>th</sup>
<b>Lecture/Week 12.</b> Climate change; Ozone depletion; Species Loss and Ecosystem Disruption and Human Health; Course Review	Apr. 6 <sup>th</sup>