

## ***Course Syllabus***

### **EESA11H3S – ENVIRONMENTAL POLLUTION**

This course provides students an introduction to issues related to environmental pollution, with emphasis on causes, pathways, risks, mitigation and prevention. By the end of this course, students will have a good understanding of the dynamic nature of human-environment relationships, and the multidimensional characteristics of environmental pollution, through the use of Canadian and international examples. Special emphasis will be placed on issues related to eutrophication phenomena, exotic species invasions, and water quality/fisheries management.

**Instructor:** Maria Dittrich                      **Office:** SY346                      **Tel:** (416) 208-2786

**Lectures:** Thursday 5 pm - 7 pm                      **Room:** AA 112

**Office hours:** Thursday 13:00-14:00 h                      SY 346

**I will NOT respond to e-mails, please use BLACKBOARD FORUM**

A weekly handout will be given and the lectures will be posted on the web.

**Course Grade:**

<b>Final Examination</b>	<b>60 %</b>
<b>Mid-Term Test</b>	<b>40 %</b>

**Prerequisites:** No prior knowledge of environmental science is required.

***N.B. 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. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or [ability@utsc.utoronto.ca](mailto:ability@utsc.utoronto.ca). The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.***

## TENTATIVE COURSE OUTLINE

<b>Jan 8</b>	<b>ORIENTATION</b>
<b>Lecture 1</b>	Course Outline
	<b>UNDERSTANDING POLLUTION</b>
	Global pollution and global environmental health
<b>Jan 15</b>	<b>GLOBAL CLIMATE CHANGE</b>
<b>Lecture 2</b>	A warming Earth; Greenhouse gases and their sources
<b>Jan 22</b>	<b>ACIDIC DEPOSITION</b>
<b>Lecture 3</b>	Acid pollutants Sources of acid precursors
<b>Jan 29</b>	<b>AIR POLLUTION</b>
<b>Lecture 4</b>	Criteria air pollutants; Hazardous air pollutants Pollution from space Air pollution in less-developed countries
<b>Feb 5</b>	<b>STRATOSPHERIC-OZONE DEPLETION</b>
<b>Lecture 5</b>	The stratosphere and ozone Antarctica Consequences of ozone depletion Ozone-depleting pollutants Reducing atmospheric levels of ozone-depleting substances-The future
<b>Feb 12</b>	<b>STRATOSPHERIC-OZONE DEPLETION</b>
<b>Lecture 6</b>	The stratosphere and ozone Antarctica Consequences of ozone depletion
<b>Feb 19</b>	<b>READING WEEK: NO CLASSES</b>
<b>Feb 26</b>	<b>TENTATIVE: MIDTERM EXAM</b>
<b>Mar 5</b>	<b>WATER POLLUTION-EUTROPHICATION</b>
<b>Lecture 7</b>	Basic Concepts of Eutrophication Food Web Structure Natural and Cultural Processes of Eutrophication Relationships among Nutrients, Water Clarity, and Phytoplankton
<b>Mar 12</b>	<b>WATER POLLUTION-EUTROPHICATION</b>
<b>Lecture 8</b>	Examples of eutrophication Gulf of Mexico Chesapeake Bay and Neuse River Estuary Baltic Sea, Black Sea, Lake Nyos
<b>Mar 19</b>	<b>GREAT LAKES ECOLOGY-FOOD WEB DYNAMICS</b>
<b>Lecture 9</b>	Great Lakes Water Quality Agreement Eutrophication problems Invasive Species/Quiz 2
<b>Mar 26</b>	<b>POLLUTANTS IN GREAT LAKES</b>
<b>Lecture 10</b>	Toxic Substances, Sources of Contaminants The Fate of Contaminants Toxicity and Its Prediction, Bioaccumulation and Biomagnification,
<b>Apr 2</b>	<b>DRINKING-WATER POLLUTION</b>
<b>Lecture 11</b>	Primary drinking water standards Pathogens, Arsenic Secondary-drinking water standards: human waste

## ***READINGS***

The required textbook for this course is:

Hill, Marquita K. (2010). *Understanding Environmental Pollution (2<sup>nd</sup> Ed. resp. 3<sup>rd</sup> Edition)*. New York: Cambridge University Press.

Specific readings will also be given out for some lectures.

### **UTSC Portal**

Many announcements (such as the weekly readings or any changes to the lecture schedule) will be made on the course “blackboard page”. To access this, you need to sign up for a UTSC account. The page is located at <https://portal.utoronto.ca>. Please check this site at least once per week, as it will be updated frequently.