University of Toronto
at Scarborough

2013-2014

"HUMAN HEALTH AND THE ENVIRONMENT"
(EESA10 H3 Summer)

Instructor: Dr. Silvija Stefanovic

Lecture: Monday 12–2 pm, AC 223

Office hours: Monday 2 - 3 pm

Office: PO104 room #109

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T.A.s: TBA

Office: SW511A

Office hours: TBA (on the Intranet soon)

Textbook: Life support: The environment and human health. Michael McCally, MIT press, Cambridge 2002 (also available on line – **see library catalogue** and on short term loan in the library).

Grading:	Assignments (2):	30% (15% each)
	Mid-term Examination:	30%
	Final Examination:	40%

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 the 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.

LECTURE TOPICS

1. Introduction, ground rules, expectations and course structure. Understanding the Health Effects of Environmental Hazards **Video**: "Everyday carcinogens: Acting for Prevention in the Face of Scientific Uncertainty" Featured by Dr. Sandra Steingraber	May 6th
2. Airborne Hazards and Human Health	May 13th
3. VICTORIA DAY - University closed	May 20rd

4. Assignment #1 discussion;
Waterborne Hazards and Human Health — May 27th

5. Chemical Hazards and Human Health
Video: "The Disappearing Male" — June 3th

6. Heavy Metals and Human Health.
Case study: CCA (Chromated Copper Arsenate) wood preservative — June 10th

7. Radiation and Electromagnetic Hazards and Human Health — June 18th

8. Biological Hazards and Human Health
Video: two YouTube clips — June 24th

9. CANADA DAY - University closed — July 1th

10. Assignment #2 discussion
Foodborne Hazards and Human Health
Video: "Diet and Disease in Modern Society" — July 8h

10. Toxicology, the Science of Risk Assessment, Precautionary Principle — July 15th

11. Environmental Hazards to Specific Populations: Children, Women, and Occupational Hazards;
Growing Population, Overconsumption, War and Human Health — July 22th

12. Climate change, Ozone depletion, Species Loss and Ecosystem Disruption
and Human Health — July 29th

I will follow this schedule as closely as possible, but things being what they are, some of these topics may "overflow" over into other time slots.

ASSOCIATED READINGS IN TEXTBOOK

Week 1 - Lec 1- Chapter 1(pp 1-6, pp 10-12)
Week 2 - Lec 2- Chapter 2
Week 3 - VICTORIA DAY - University closed
Week 4 - Lec 3- Chapter 3
Week 5 - Lec 4- Chapters 9, 10
Week 6 - Lec 5- Chapter 4
Week 7- Lec 6- Chapter 12
Week 8 -- Lec 7- lecture notes only
Week 9 - Lec 8-lecture notes only
Week 10 - Lec 9- Chapters 13, 14
Week 11- Lec 10- Chapters 5, 15, 16
Week 12 - Lec 11- Chapters 6, 7, 8

Suggested studying strategy: I would suggest you to read the suggested chapter before the class but just briefly, do not spend too much time. Then see the lecture and take the notes during the lecture since everything I say, not just what is written on the slides, is for the exams. Then read the chapter again but now more carefully since you know now on what parts to focus on, based on my lecture. This strategy is time consuming but for sure successful.
It is important to read the textbook.

More emphasizes will be put on the lecture notes but still some of the questions will be from the text.

LECTURE NOTES

The lecture slides will be posted in *.pdf format on the Intranet. You will require Adobe Reader to open the files (available free of charge at www.adobe.com).

ASSIGNMENTS

There are no tutorials in this course. TAs will hold office hours to help with assignments. See the Intranet to find out who is your TA. I would suggest you to attend office hours of your TA *(always the same TA)* regularly since she/he will mark your assignments. If you have conflict you can see another TA but you have to submit the assignment to your, designated, TA. Students are encouraged to actively consult with the TAs regarding any problems or questions about the preparation of the assignment.

You will have two assignments during the term, worth 30% of the final grade (15% each). **You will be able to access the problem sheets on the Intranet at the times detailed below.** Completed exercises must be placed in the box of appropriate TA, outside SW-511A, by 5 pm on the dates shown. TAs will mark the assignments. More details on the assignments will be circulated during the term.

	On the Intranet	**Submission Due**
Assignment #1 (Related to Lecture 1-5)	Monday, May 27th	Monday, June 10th 5pm
Assignment #2 (Related to Lecture 6-11)	Monday, July 8th	Monday, July 22th 5pm

You should use a word processor for your written responses. The document must bear a name, student number, date and TAs name. Calculations if any may be handwritten.

PLEASE NOTE:

1) Plagiarism will not be tolerated. Students are expected to submit **individual work** for grading. It is an academic offense to plagiarize and those who do, will be subjected to University procedures (see the calendar).Feel free to discuss the assignments with your classmates, but be sure to write the assignments using your own individual words and ideas.

2) Late assignments will not be accepted and assigned a grade of zero.

Extensions will be granted ONLY with medical note or under exceptional circumstances. Your TA must be informed about that immediately or within maximum 10 days after the assignment due date.

EXAMS

Both the midterm and final exam will draw from lectures and assignments and includes lecture notes and *any* material presented in the classroom **(VIDEOS ARE FOR THE EXAMS)**. Information from the textbook and other resources not directly covered in class or in the assignments will not be tested on exams. Only the numbers, dates and names presented in the class are for the exams.

MID-TERM EXAMINATION

The 1-hour mid-term examination will be held during the mid-term period, exact time, date and rooms TBA. The exam will consist of multiple-choice and true-false questions and will be worth 30% of the final grade.

FINAL EXAMINATION

The 1-hour final examination will be held during the final examination period. The exam is worth 40% of the final grade for the course. It will be a combination of multiple choice, and true-false questions.

FURTHER READINGS

Blumenthal, D. S., and Ruttenber, A. J. (1995). *Introduction to environmental health.* Second Edition. New York: Springer.

Lippmann, M. (Ed.). (1992). *Environmental toxicants: Human exposures and their health effects.* New York: Van Nostrand Reinhold.

Moeller, D. W. (1997). *Environmental health* (Revised ed.). Cambridge: Harvard University Press.

Moore, G. S. (1999). *Living with the earth: Concepts in environmental health science.* Boca Raton: Lewis Publishers.

Nadakavukaren, A. (2000). *Our global environment;: A health perspective* (5th ed.) Prospect Heights: Waveland Press, Inc.

Philp, R. B. (1995). *Environmental hazards and human health.* Boca Raton: Lewis Publishers.

Yassi, A., Kjellstrom, T., de Kok, T., Guidotti, T. L. (2001). *Basic environmental health.* New York: Oxford University Press.

Devis Devra (2002). *When Smoke Run Like Water.* Basic Books. Member of the Perseus Books Group.

Donald Vesley (1999). *Human health and the environment: a turn of the century perspective.* Kluwer Academic Publishers. Boston/Dordrecht/London.

Dawn Matthews (2003). *Environmental health source book: basic consumer health information about the environment and its effect on human health, including the effects of air pollution, water pollution, hazardous chemicals, food hazards, radiation hazards, biological agents……*Omnigraphics. Detroit.