MEC 280 : Pollution and Human Health

Fall 2017 Online

Textbook: none. You will be given assignments to review lectures or videos by professors posted in Blackboard, read material online, or view videos online.

Classroom: Online only

Instructors: Juldeh Sesay,
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Office Hours: Tu, We, Th: 11:00 – 12:45 PM

Teaching Assistant: none

Course Description
An examination of major environmental pollution problems such as electromagnetic radiation, ozone layer depletion, and global warming, with a specific focus on the resulting effects on human health. Assessment of health risks in relation to the formulation of environmental and workplace regulations is also considered

Topics
1. Course Introduction. Ecosystems and health:
* Environmental health, ecosystems, human health, population size and health, carrying capacity

2. Historical perspective:
* Early humans, the industrial revolution and population trends

3. Health effects of pollutions:
*Acute and chronic effects, determining health effects of pollutants, pollutants pathways into and through the human body, pollutant effects on cells and organs

4. Urban pollution:
* Urbanization, pollution from gasoline and diesel engines in automobiles and other vehicles, combustion of fossil fuels by utilities for electricity generation, direct health effects of urban smog, lead and asbestos, acid rain, and noise pollution

5. Depletion of the ozone layer:
* The good ozone, ozone dynamics, halocarbons, ultraviolet radiation and skin cancer, immune system suppression, indirect health effects

6. Global climate change:
* Carbon footprint, the greenhouse effect, climate models of global warming, uncertainties.

7. Radiation:
* Characteristics of ionizing radiation, biological effects, sources of low level ionizing radiation exposure, radioactive wastes, microwave radiation, low frequency electromagnetic fields

8. Indoor pollution:
* Radon, health effects of radon, formaldehyde, and sick building

9. Pesticides and other xenoestrogens:
* Estrogen and xenoestrogens, pesticides, industrial chemicals

10. Risk assessment and management:
* Introduction, assessing risk, chronic effects, epidemiological studies, decision making

Grades:

All exams are performed online in Blackboard under strict time limits. Acquiring any information relevant to the test from any source (other than the course instructors) during a test will be considered an act of Academic Dishonesty.

Here is the grade curve for the course:

A [95, 100], A- [90, 94], B+ [85, 89], B [80, 84], B- [75, 79], C+ [70, 74], C [65, 69], D [55, 64], F [0, 54].

DISABILITY SUPPORT SERVICES (DSS) STATEMENT

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: http://www.stonybrook.edu/ehs/fire/disabilities]

ACADEMIC INTEGRITY STATEMENT

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/

CRITICAL INCIDENT MANAGEMENT

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.