

**PubH 6132**  
**Air, Water and Health**  
**Fall 2016**

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<b>Credits:</b>	<b>2</b>
<b>Meeting Days:</b>	<b>Wednesday</b>
<b>Meeting Time:</b>	<b>9:05-11:00</b>
<b>Meeting Place:</b>	<b>Moos 2-116</b>
<b>Instructor:</b>	<b>Matt Simcik</b>
<b>Office Address:</b>	<b>1108 Mayo</b>
<b>Office Phone:</b>	<b>6-6269</b>
<b>Fax:</b>	<b>6-0650</b>
<b>E-mail:</b>	<b>msimcik@umn.edu</b>
<b>Office Hours:</b>	<b>by appointment</b>

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**I. Course Description**

In this course we will explore the issues related to providing adequate levels of clean air and water. Specific issues include local water quantity and quality and local air quality in both the developed and developing world, as well as global air and water quality, and policies meant to protect these resources.

**II. Course Prerequisites**

none

**III. Course Goals and Objectives**

By taking this course you will be able to incorporate air and water pollution and water supply into your scientific investigation of environmental health. A basic understanding of all the topics, and specialized knowledge in one or more particular areas will be mastered. Objectives: 1. Understand the basic components of a water treatment system; 2. Understand the basic components of a wastewater treatment system; 3. Be able to list common hazards in drinking water from both the developed and developing world; 4. Be able to identify the important air pollution issues on the local scale in both developing and developed world and on the global scale; 5. Be able to identify and discuss the merits of existing and proposed legislation and/or international treaties concerning water quantity and quality and air pollution.

**IV. Methods of Instruction and Work Expectations**

Expectations for learning will be given prior to each lecture and a quiz will be given on the material from the expectations, obtained from the lecture. Each lecture will be designed to be a mixture of lecture and discussion. Be prepared. If you have no questions for me, I am certain to have some for you. This is the only way outside of exams and quizzes that I have to evaluate my teaching and your learning. There will be two exams, one covering Water Quantity, and one covering Air issues related to Global Health. There will

also be a Final Report on Water Reuse for the City of Rosemount as part of the University of Minnesota Resilient Communities Project. This will be due the end of the semester.

## V. Course Text and Readings

The students will sign-up to bring in one reading on water and one on air that interests them, and discuss it with the class. Depending on class size we will have two to three readings to discuss each week. The readings must be turned in to the instructor at least two days prior to class..

## VI. Course Outline/Weekly Schedule

### WATER

Basic Hydrology (week 1)

Water Quantity

Water needs/use: differences among developed and developing countries (week 2)

Water Sources (week 3)

Water supply (week 4)

Water Conflicts (week 5)

Water Quality

Microbiology (week 6)

Chemicals (week 7)

Water treatment (week 8)

Wastewater treatment (week 9)

### AIR

Structure of the Atmosphere (week 10)

History of Air Pollution (week 11)

Urban Air Pollution (week 12)

Photochemical smog

Ground level ozone

Particles

Indoor Air Pollution (week 13)

Radon

Carbon Monoxide

Particles

Health Effects of Air Pollutants (week 14)

Human Health

Welfare

Global Issues (week 15)

Global Warming

Trans-continental Transport of Pollutants

## VII. Evaluation and Grading

Quizzes: 30%; Exam I: 15%; Exam II 15%; Report: 30%; Class Participation: 10%. The quizzes will be at the beginning of class and cover the learning objectives and/or readings from the previous week.. The exams are

non-cumulative, and are evenly weighted. Class participation includes attendance, asking and answering questions and contributing to discussions. The assignment of grades will be as follows: A = 95-100; A- = 90-94; B+ = 87-89; B = 83-86; B- = 80-82; C+ = 77-79; C = 73-76; C- = 70-72; No pass below 70.

### **Course Evaluation**

Beginning in fall 2008, the SPH will collect student course evaluations electronically using a software system called CoursEval: [www.sph.umn.edu/courseval](http://www.sph.umn.edu/courseval). The system will send email notifications to students when they can access and complete their course evaluations. Students who complete their course evaluations promptly will be able to access their final grades just as soon as the faculty member renders the grade in SPHGrades: [www.sph.umn.edu/grades](http://www.sph.umn.edu/grades). All students will have access to their final grades through OneStop two weeks after the last day of the semester regardless of whether they completed their course evaluation or not. Student feedback on course content and faculty teaching skills are an important means for improving our work. Please take the time to complete a course evaluation for each of the courses for which you are registered.

### **Incomplete Contracts**

A grade of incomplete "I" shall be assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., documented illness or hospitalization, death in family, etc.), the student was prevented from completing the work of the course on time. The assignment of an "I" requires that a contract be initiated and completed by the student before the last official day of class, and signed by both the student and instructor. If an incomplete is deemed appropriate by the instructor, the student in consultation with the instructor, will specify the time and manner in which the student will complete course requirements. Extension for completion of the work will not exceed one year (or earlier if designated by the student's college). For more information and to initiate an incomplete contract, students should go to SPHGrades at: [www.sph.umn.edu/grades](http://www.sph.umn.edu/grades).

### **University of Minnesota Uniform Grading and Transcript Policy**

A link to the policy can be found at [onestop.umn.edu](http://onestop.umn.edu).

## **VIII. Other Course Information and Policies**

### **Grade Option Change** (if applicable)

For full-semester courses, students may change their grade option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester courses) can be found at [onestop.umn.edu](http://onestop.umn.edu).

### **Course Withdrawal**

Students should refer to the Refund and Drop/Add Deadlines for the particular term at [onestop.umn.edu](http://onestop.umn.edu) for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw.

Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Student Services Center at [sph-ssc@umn.edu](mailto:sph-ssc@umn.edu) for further information.

### **Student Conduct, Scholastic Dishonesty and Sexual Harassment Policies**

Students are responsible for knowing the University of Minnesota, Board of Regents' policy on Student Conduct and Sexual Harassment found at [www.umn.edu/regents/polindex.html](http://www.umn.edu/regents/polindex.html).

Students are responsible for maintaining scholastic honesty in their work at all times. Students engaged in scholastic dishonesty will be penalized, and offenses will be reported to the SPH Associate Dean for Academic Affairs who may file a report with the University's Academic Integrity Officer.

The University's Student Conduct Code defines scholastic dishonesty as "plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis."

Plagiarism is an important element of this policy. It is defined as the presentation of another's writing or ideas as your own. Serious, intentional plagiarism will result in a grade of "F" or "N" for the entire course. For more information on this policy and for a helpful discussion of preventing plagiarism, please consult University policies and procedures regarding academic integrity: <http://writing.umn.edu/tww/plagiarism/>.

Students are urged to be careful that they properly attribute and cite others' work in their own writing. For guidelines for correctly citing sources, go to <http://tutorial.lib.umn.edu/> and click on "Citing Sources".

In addition, original work is expected in this course. Unless the instructor has specified otherwise, all assignments, papers, reports, etc. should be the work of the individual student. It is unacceptable to hand in assignments for this course for which you receive credit in another course unless by prior agreement with the instructor. Building on a line of work begun in another course or leading to a thesis, dissertation, or final project is acceptable.

### **Disability Statement**

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have a documented disability (e.g., physical, learning, psychiatric, vision, hearing, or systemic) that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact Disability Services to have a confidential discussion of their individual needs for accommodations. Disability Services is located in Suite 180 McNamara Alumni Center, 200 Oak Street. Staff can be reached by calling 612/626-1333 (voice or TTY).

### **Mental Health Services:**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via [www.mentalhealth.umn.edu](http://www.mentalhealth.umn.edu)