

School of Public Health

**PubH 6182-001 - Emerging Infectious Disease: Current Issues, Policies, and Controversies
Spring 2018**

Credits: 3

Meeting Days: Mondays

Meeting Time: 10:10 a.m. to 1:10 p.m.

Meeting Place: Section 001, Mondays 10:10-1:10 p.m.
Location: WDH 2-120
and online at <http://moodle.umn.edu>

Instructors: Dr. Michael Osterholm

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I. Course Description

Today, the epidemiology of infectious diseases on a worldwide basis is growing increasingly complex with the many emerging social, political and demographic changes in our population, as well as dynamic changes in animal and vector populations and the environment. As a result, the rapidly growing problem of emerging infections requires new and creative means for prevention and control. Of particular concern are those infectious diseases of pandemic potential or of regional critical importance. These diseases have the potential to greatly impact the social, political and economic stability of country, region or even the world. Since the incidence of emerging infectious disease is related to many of the above-mentioned factors, activities to reduce their occurrence are often complex and controversial. This course will review a series of current issues and controversies in the prevention and control of infectious diseases both from science and policy perspectives. It will also serve as a forum for students to debate the merits of these issues and controversies. Finally, we will develop a framework for considering realistic and innovative science and policy solutions to these problems. The course will use a combination of lecture, discussion and student presentation format to encourage broad participation. Sessions will usually begin with student briefings of current events in infectious diseases. Lectures from Professor Osterholm will serve as a point of reference for class discussion. There will be four distinguished expert guest lecturers addressing aspects of both the problems and solutions of infectious diseases in the 21st century. Students will be asked to summarize and critique assigned readings, and to bring information from their own reading to class discussion.

II. Course Prerequisites

None

III. Course Goals and Objectives

As a result of this course, students will be able to:

1. Demonstrate a critical understanding of selected current issues and controversies surrounding the prevention and control of infectious diseases;
2. Define and distinguish the differences between diseases of pandemic potential; epidemic diseases of critical regional importance; bioterrorism, dual use research of concern (DURC) and gain-of-function research of concern (GOFRC) and other critical endemic diseases.
3. Describe how current elected and policy leaders, public health officials and other involved parties have responded to the prevention and control aspects of these issues and controversies;
4. Create/determine action plans (identification of appropriate steps) to address complex infectious disease science and policy challenges facing the world, including the “war on science”;
5. Identify key collaboration partners and leaders (in multiple disciplines and levels of management) in the implementation science and policy solutions to a pressing infectious disease challenges.

IV. Methods of Instruction and Work Expectations

Lecture, student presentations and discussion.

V. Course Text and Readings

Emphasis will be placed on the use of internet-based resources, including current news articles and government-generated documents. Also, students will have access to extensive resources on the Center for Infectious Disease Research and Policy (CIDRAP) Web site (www.cidrap.umn.edu).

Osterholm MT and Olshaker M. Deadliest Enemy: Our War Against Killer Germs. 2017. Little Brown and Company. New York. 341p.

Deadliest Enemy link - Amazon

https://www.amazon.com/s/ref=nb_sb_ss_c_1_15?url=search-alias%3Daps&field-keywords=deadliest+enemy+our+war+against+killer+germs&prefix=deadliest+enemy%2Caps%2C142&crd=3186XNBES06XJ

Deadliest Enemy link – Barnes & Noble

<https://www.barnesandnoble.com/w/deadliest-enemy-michael-t-osterholm/1124064218?ean=9780316343695>

Otto SL. The War on Science: Who's Waging It, Why It Matters, What We Can Do About It. 2016. Milkweed Editions. 514 p.

War on Science – Shawn Otto – Amazon

https://www.amazon.com/s/ref=nb_sb_ss_c_1_11?url=search-alias%3Daps&field-keywords=war+on+science+shawn+otto&prefix=War+on+scie%2Caps%2C160&crd=APT80AST28L&rh=i%3Aaps%2Ck%3Awar+on+science+shawn+otto

War on Science – Shawn Otto – Barnes & Noble

[https://www.barnesandnoble.com/w/the-war-on-science-shawn-lawrence-otto/1123623300?ean=9781571313539#/#/](https://www.barnesandnoble.com/w/the-war-on-science-shawn-lawrence-otto/1123623300?ean=9781571313539#/)

The Compelling Need for Game-Changing Influenza Vaccines: An Analysis of the Influenza Vaccine Enterprise and Recommendations for the Future. CIDRAP, University of Minnesota, 2012

<http://www.cidrap.umn.edu/ongoing-programs/cidrap-comprehensive-influenza-vaccine-initiative-ccivi>

World Health Organization (WHO): Final Report of the Ebola Interim Assessment Panel (July 2015)

<http://www.who.int/entity/csr/resources/publications/ebola/report-by-panel.pdf>

Report landing page: <http://www.who.int/csr/resources/publications/ebola/ebola-panel-report/en/>

WHO: Final Report of the Ebola Interim Assessment Panel: Correction

<http://www.who.int/entity/csr/resources/publications/ebola/correction-interim-assessment-en.pdf>

WHO Secretariat Response to the Report of the Ebola Interim Assessment Panel (August 2015)

<http://www.who.int/entity/csr/resources/publications/ebola/who-response-to-ebola-report.pdf>

Moon S, Sridhar D, Pate MA, et al. Will Ebola change the game? Ten essential reforms before the next pandemic: the report of the Harvard-LSHTM Independent Panel on the Global Response to Ebola. Lancet 2015 Nov 28;386(10009):2204-21

[http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(15\)00946-0.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(15)00946-0.pdf)

National Academies of Medicine: The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises (2016)

<http://www.nap.edu/catalog/21891/the-neglected-dimension-of-global-security-a-framework-to-counter>

Other handouts will be provided by the instructor on the course website.

VI. Course Outline/Weekly Schedule

Attendance: This is a discussion-based class and attendance is required. If you are not able to attend a lecture, please contact the instructor. Readings will be posted online at <http://moodle.umn.edu> prior to each class; students should come prepared to discuss the topic of the day.

Weekly Assignment: Following each class, students will be given a short weekly assignment. The assignments will vary from week to week. For all weeks students shall bring an article related to emerging infectious diseases from a newspaper, magazine or other media source. Students shall write a brief summary of the importance or meaning of the article as it relates to science policy. Each week selected students will present their article and its relevance to public health to the class. Throughout the semester students are strongly encouraged to follow the news and literature on infectious diseases.

Midterm Paper due March 5, 2018: 4 pages double-spaced, 12-point font. Topic: Students will be asked to discuss a topic presented in the first half of the course. Details will be provided in class.

Final Paper due April 30, 2018: 8 pages double-spaced, 12-point font. Topic: Students will write a position paper discussing a public health issue addressed in the course. Details will be provided in class.

Note: - Weekly reading assignments will be given the week before in class as discussion will be about current news and journal articles, etc. All information will be available online with no additional expense incurred by students.

Week 1 (Jan 15) No class

Week 2 (Jan 22)

- Course overview
 - Emerging infectious disease model for the 21st century (the who, what, when where and why)
 - Science policy: a framework
 - The science policy interface: what this class is all about
 - Critical factors for disease emergence/reemergence and prevention and control
 - Pathogens of pandemic potential and pathogens of critical regional importance

Week 3 (Jan 29)

- Course overview from Week 2 continued

Week 4 (Feb 5)

- The compelling need for game-changing influenza vaccines: An analysis of the influenza vaccine enterprise and recommendations for the future.

Week 5 (Feb 12)

- Antimicrobial resistance

Week 6 (Feb 19)

- Operation Whitecoat
- A Historical Perspective on Biowarfare/Bioterrorism (Guest lecture, Randall Larsen)

Week 7 (Feb 26)

- International efforts to prevent and control infectious disease: the reality of a modern world (Guest lecture, Christy Hanson)

Week 8 (Mar 5)

- Pathogens of critical regional importance
 - Ebola
 - MERS
 - Zika
- **Midterm Paper Due**

Week 9 (Mar 12)

- **No class Spring Break**

Week 10 (Mar 19)

- War on science (Guest lecture, Shawn Otto)

Week 11 (Mar 26)

- Global governance and public health preparedness and response
- Anticipating the infectious disease issues that global implications

Week 12 (Apr 2)

- Geopolitical challenges for infectious disease prevention and control
 - Polio, HIV, other emerging infections and climate change

Week 13 (Apr 9)

- Vectorborne disease prevention and control

Week 14 (Apr 16)

- TBD

Week 15 (Apr 23)

- Media and infectious diseases: The public and policy makers' perceptions of infectious disease. "How do we tell the story?" (Guest lecture, Don Shelby.)

Week 16 (April 30)

- **Final Paper Due and Class Review**

VII. Evaluation and Grading

1. **Grading Criteria** – Students will be evaluated on weekly written assignments (25%), group and class participation (20%), a midterm paper (20%) and a final paper (35%). Weekly assignments will be graded A-F. Details will be provided in class.

Inquiries regarding any changes of grade should be directed to the instructor of the course; you may wish to contact the Student Dispute Resolution Center (SDRC) in 107 Eddy Hall (612-625-5900) for assistance.

Students are responsible for all information disseminated in class and all course requirements, including deadlines and examinations.

A student is not permitted to submit extra work in an attempt to raise his or her grade, unless the instructor has specified at the outset of the class such opportunities will be afforded to all students.

2. **Grading Option** – Both A-F and S-N grading options are available. The S grade does not carry points but the credits will count toward completion of the student's degree program. S/N option must complete all assignments to a C level. Students may change grading options during the initial registration period or during the first two weeks of the semester. **The grading option may not be changed after the second week of the term.**

2. **Course Withdrawal** – School of Public Health students may withdraw from the course through February 12, 2018, without permission. No "W" will appear on the transcript; <https://onestop.umn.edu/dates-and-deadlines>

. After February 12, 2018, students are required to do the following:

1. The student must contact and notify their advisor and course instructor informing them of the decision to withdraw from the course.
2. The student must send an e-mail to the SPH Student Services Center (SSC). The e-mail must provide the student name, ID#, course number, section number, semester and year with instructions to withdraw from the course, and acknowledgment that the instructor and advisor have been contacted.
3. The advisor and instructor must email the SSC acknowledging the student is canceling the course. All parties must be notified of the student's intent.
4. The SSC will complete the process by withdrawing the student from the course after receiving all e-mails (student, advisor and instructor). A "W" will be placed and remain on the student transcript for the course.

After discussion with their advisor and notification to the instructor, students may withdraw up until the eighth week of the semester. There is no appeal process.

Incomplete Grade

A grade of incomplete "I" shall be assigned at the discretion of the instructor when, due to extraordinary circumstances, the student was prevented from completing the work of the course on time. The assignment of an incomplete requires a written agreement between the instructor and student specifying the time and manner in which the student will complete the course requirements. In no event may any such written agreement allow a period of longer than one year to complete the course requirements.

University of Minnesota Uniform Grading and Transcript Policy

A link to the policy can be found at onestop.umn.edu.

VIII. Other Course Information and Policies **Grade Option Change** (if applicable)

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

Course Withdrawal

Students should refer to the Refund and Drop/Add Deadlines for the particular term at 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 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 https://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf.

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 Office of Student Academic Integrity (OSAI, <http://www.oscai.umn.edu/>).

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:

<https://iss.umn.edu/Academics/academic-integrity.html>.

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. 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.

If you have any questions, consult the instructor.

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).