

PUBH 6182-001 - Emerging Infectious Disease: Current Issues, Policies, and Controversies

Spring 2019

Grading Option[S/N only no audit, A/F or Student Options]

COURSE & CONTACT INFORMATION

Credits: 3

Meeting Day(s): Mondays

Meeting Time: 10:10 am to 1:10 pm

Meeting Place: WDH – 2-120
and online at <http://moodle.umn.edu>

Instructor: Dr. Michael Osterholm

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Office Hours: By appointment

Office Location: C316 Mayo

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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 five 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. Course Prerequisites

COURSE GOALS & OBJECTIVES

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.

METHODS OF INSTRUCTION AND WORK EXPECTATIONS

Course Workload Expectations [Note: you can customize this to your course or replace with your own language]

Lecture, student presentations and discussion.

Like other work in the course, all student to student communication is covered by the Student Conduct Code (<https://z.umn.edu/studentconduct>).

COURSE TEXT & 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&srefix=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&srefix=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>

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

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 11, 2019: 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 29, 2019: 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.

COURSE OUTLINE/WEEKLY SCHEDULE

Week	Topic	Readings	Activities/Assignments
Week 1 Jan 21, 2019	No Class - Holiday		
Week 2 Jan 28, 2019	Course Overview <ul style="list-style-type: none"> ○ Emerging infections 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 	Deadliest Enemy: Our War Against Killer Germs	
Week 3 Feb 4, 2019	Course overview from Week 2 continued	Deadliest Enemy: Our War Against Killer Germs	
Week 4 Feb 11, 2019	The compelling need for game-changing influenza vaccines: An analysis of the influenza vaccine enterprise and recommendations for the future	CCIVI Report	
Week 5 Feb 18, 2019	Antimicrobial resistance	To be assigned	
Week 6 Feb 25, 2019	<ul style="list-style-type: none"> ○ Operation Whitecoat ○ A Historical Perspective on Biowarfare/Bioterrorism (Guest lecture, Randall Larsen) 	Review video	
Week 7 Mar 4, 2019	International efforts to prevent and control infectious disease: the reality of a modern world (Guest lecture, Christy Hanson)	To be assigned	
Week 8 Mar 11, 2019	Pathogens of critical regional importance <ul style="list-style-type: none"> • Ebola • MERS • Zika • Midterm Paper Due 	Deadliest Enemy: Our War Against Killer Germs	
Week 9 Mar 18, 2019	No class – Spring Break		
Week 10 Mar 25, 2019	War on Science (Guest lecture, Shawn Otto)	War on Science	

Week 11 Apr 1, 2019	<ul style="list-style-type: none"> • Global governance and public health preparedness and response • Anticipating the infectious disease issues and global implications 	To be assigned
Week 12 Apr 8, 2019	Geopolitical challenges for infectious disease prevention and control <ul style="list-style-type: none"> • Polio, HIV, other emerging infections and climate change 	To be assigned
Week 13 Apr 15, 2019	Vectorborne disease prevention and control	To be assigned
Week 14 Apr 22, 2019	TBD	
Week 15 Apr 29, 2019	Media and infectious diseases: The public policy makers' perceptions of infectious disease. "How do we tell the story?" (Guest lecture, Don Shelby)	None
Week 16 May 6, 2019	Final Paper Due and Class Review	

SPH AND UNIVERSITY POLICIES & RESOURCES

The School of Public Health maintains up-to-date information about resources available to students, as well as formal course policies, on our website at www.sph.umn.edu/student-policies/. Students are expected to read and understand all policy information available at this link and are encouraged to make use of the resources available.

The University of Minnesota has official policies, including but not limited to the following:

- Grade definitions
- Scholastic dishonesty
- Makeup work for legitimate absences
- Student conduct code
- Sexual harassment, sexual assault, stalking and relationship violence
- Equity, diversity, equal employment opportunity, and affirmative action
- Disability services
- Academic freedom and responsibility

Resources available for students include:

- Confidential mental health services
- Disability accommodations
- Housing and financial instability resources
- Technology help
- Academic support

EVALUATION & 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.**

Evaluation/Grading Policy	Evaluation/Grading Policy Description
<p>Scholastic Dishonesty, Plagiarism, Cheating, etc.</p>	<p>You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means 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; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis (As defined in the Student Conduct Code). For additional information, please see https://z.umn.edu/dishonesty</p> <p>The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: https://z.umn.edu/integrity.</p> <p>If you have additional questions, please clarify with your instructor. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.</p> <p>Indiana University offers a clear description of plagiarism and an online quiz to check your understanding (http://z.umn.edu/iuplagiarism).</p>
<p>Late Assignments</p>	<p>Points will be taken off for late assignments</p>
<p>Attendance Requirements</p>	<p>Expected for for each class. If a student cannot attend, an email should be sent to Laurel O'Neil, the class TA at oneil005@umn.edu</p>
<p>Extra Credit</p>	<p>TBD</p>

CEPH COMPETENCIES

Competency	Learning Objectives	Assessment Strategies