

GEOG02: Global Health and Society

Winter Term 2015: 2A: T, TH 2-3:50, X-period W 4:15-5:05
Final Exam: Saturday, March 14th, 3-6pm

Classroom: Fairchild 101

Course Description:

Only a few decades ago, we were ready to declare a victory over infectious diseases. Today, infectious diseases are responsible for major morbidity and mortality experienced throughout the world. Even resource-rich countries are plagued by resistant “super-bugs” and antibiotic misuse. This course will examine the epidemiology and social impact of past and present infectious disease epidemics in the developing and developed world. True scenarios such as the introduction of drugs to treat HIV/AIDS in sub-Saharan Africa will be considered from political, ethical, medical, legal and economic perspectives. Lessons from past and current efforts to control global infectious diseases will guide our examination of the high-profile infectious disease pathogens poised to threaten our health in the future.

Open to all students. Limited to 40 students. Dist: INT or SOC. Adams/Butterly

Class Syllabus

Readings and recorded lectures are indicated beneath the topic to be discussed in class. ALL are expected to have done the assignments. Primary research papers and review articles for each topic are included.

Introduction to Global Health: Overview of Infectious Disease Epidemiology

Tuesday, January 6

- Introduction to Global Health – L. Adams
 1. Textbook of International Health, 3rd edition, Birn A, Pillay Y, Holtz T (eds.), Oxford University Press, 2009, Introduction, pages 3-10.
 2. Koplan et al. Towards a common definition of global health. Lancet, 2009 Jun 6, 373(9679);1993-5.
- Brief history of infectious diseases: humans, their environment and evolution – J. Butterly
 1. Listen to recording on Canvas.
 2. Guns, Germs and Steel, Chapter 7: Lethal Gift of Livestock, pages 195-214.
 3. Principles and Practices of Infectious Diseases (Sixth Edition), A Molecular Perspective of Microbial Pathogenicity, pages 3-12.

Thursday January 8

- Epidemiology of infectious disease – US perspective – J. Butterly
 1. Listen to recording on Canvas
 2. *Understanding Global Health*, Chapter 3: Epidemiology, Biostatistics, and Surveillance, pages 47-64.
 3. Morbidity and Mortality Weekly Report, Summary of Notifiable Diseases – United States 2003, volume 52, No. 54; pages 1-14. (Just skim this reading)
 4. OPTIONAL: Principles of Infectious Disease: Chapter 12 pages 161-171 – Epidemiologic Principles.

- Epidemiology of infectious disease – global perspective – L. Adams
 1. *Understanding Global Health*, Chapter 3: Epidemiology, Biostatistics, and Surveillance, pages 64-71.
 2. Frieden et al. Global TB: Perspectives, Prospects, and Priorities, JAMA, Sept 4, 2014.
 3. Piot et al. Response to the AIDS Pandemic - A Global Health Model, NEJM, June 6, 2013.
 4. World Malaria Report 2013. Skim Summary and Key Points. WHO/Geneva.

Global Health Stakeholders and Systems

Reading reflection #1 due by noon for last names A-L

Tuesday, January 13

- Agencies, organizations and other stakeholders in global health – L. Adams
 1. Textbook of International Health, 3rd edition, Birn A, Pillay Y, Holtz T (eds.), Oxford University Press, 2009, pages 65-82, 89-93, 97-102, 109-119.
- Impact of public health measures: water, waste disposal, hygiene – John Butterly
 1. Listen to recording on Canvas
 2. UN Millennium Project 2005, Health Dignity and Development: what will it take? Foreword through Chapter 2.

Thursday, January 15

Reading reflection #1 due by noon for last names M-Z

- Global Health Systems & Health Care Worker Shortage – Denise Anthony, PhD, Associate Professor of Sociology
 1. *Understanding Global Health*, Chapter 20: Health Systems, Management, and Organization in Global Health, pages 445-459.
- Impact of medical/public health measures: vaccinations and antibiotic development – L. Adams
 1. *Understanding Global Health*, Chapter 1: Global Health: Past, Present, and Future, pages 1-10 (up to Poverty and World Hunger).
 2. Morbidity and Mortality Weekly Report, Ten Great Public Health Achievements -- United States, 1900-1999, volume 48, No. 12, April 2, 1999, pages 241-8.
 3. Morbidity and Mortality Weekly Report, Achievements in Public Health 1990-1999: Control of Infectious Diseases, volume 48, No. 29, July 30, 1999, pages 621-8.
 4. Watch the segment of the "Rx for Survival" PBS video, available as streaming video from Jones Media Center.

Public Health Measures in Global Health

Reading reflection #2 due by noon for last names A-L

Tuesday, January 20

- Diseases of Neglect: Funding a Global Health Agenda – L. Adams

1. *Understanding Global Health*, Chapter 11: The Neglected Tropical Diseases, pages 269-270 (up to The Neglected Tropical Diseases), pages 273-4 (starting with Schistosomiasis, up to Lymphatic Filariasis) and pages 281-2 (starting at New Strategies) and chapter 19, pages 433-37 (up to The Impact of Health Care on the Economy).
2. Morris K. Time to overcome the neglect of neglected tropical diseases. *Lancet Infect Dis.* 2010 Dec; 10(12):820-1.
- Underpinning global health: food, nutrition, & disease – J. Butterly
 1. Listen to recording on Canvas
 2. *Understanding Global Health*, Chapter 6: Nutrition, pages 159-193.

Thursday, January 22

- QUIZ #1
- Vaccine Development: Policy and Politics – Kendall Hoyt, Assistant Professor of Medicine

Tuesday, January 27

Reading reflection #2 due by noon for last names M-Z

- Global Health Case #1: Dartmouth Involvement in Haiti
 1. “Dartmouth Involvement in Haiti”

Thursday, January 29

- Experience as a Cultural Ambassador – Oliver Mtukudzi, Visiting Artist from Zimbabwe
- Introduction to Medical Anthropology in Global Health – Elizabeth Carpenter-Song, PhD

Child Health and Tuberculosis

Reading reflection #3 due by noon for last names A-L

Tuesday, February 3

- Eradicating Polio—Dr. John Modlin, Deputy Director for Research, Polio and Global Development at the Bill and Melinda Gates Foundation; Former Chair of Pediatrics at Dartmouth-Hitchcock Medical Center
 1. Polio’s Last Stand - IMB Report, Nov 2012
- Tuberculosis: An ancient disease or a new threat? – L. Adams
 1. *Understanding Global Health*, Chapter 10: Tuberculosis and HIV/AIDS, pages 237-248.

Thursday, February 5

Reading reflection #3 due by noon for last names M-Z

- Tuberculosis: Epidemiology and Control – L. Adams
 1. Zumla A et al. Reflections on the white plague. *Lancet Infect Dis.* 2009 Mar;9(3):197-202.
 2. Harries et al. HIV & TB - science implementation to turn the tide and reduce deaths, JIAS.
 3. Dheda et al. Global Control of TB-from XDR to untreatable TB, *Lancet*.

- Malaria : its history, current epidemiology, eradication and control – J. Butterly
 1. Listen to recording on Canvas
 2. WHO International Publications, Chapter 7, Malaria, pages 132-151.
 3. Principles and Practices of Infectious Diseases (Sixth Edition), Volume 2; Plasmodium Species (Malaria), pages 3121-38.

Tuesday, February 10

Reading reflection #4 due by noon for last names A-L

- Global Health Case Study #2: “BRAC's Rural Tuberculosis Program” – L. Adams
 1. Case Study “BRAC's Rural Tuberculosis Program

Thursday, February 12

Reading reflection #4 due by noon for last names M-Z

- The Unprecedented Outbreak of Ebola, 2013-14 – Martin Cetron, MD, Director, Division of Quarantine and Global Migration, US Centers for Disease Control and Prevention and Elizabeth Talbot, MD, Associate Professor Medicine, Infectious Disease and International Health Section

Tuesday, February 17

- QUIZ #2
- Community-based programs: Lessons from Africa and the US – Patricia Doykos (‘82), PhD, Director, Bristol-Myers Squibb Foundation
 1. Kabore et al, The Effect of Community-Based Support Services on Clinical Efficacy and Health-Related Quality of Life in HIV/AIDS Patients in Resource-Limited Settings in Sub-Saharan Africa. AIDS Patient Care and STDs, 2010.

Responding to the HIV/AIDS Epidemic

Reading reflection #5 due by noon for last names A-L

Thursday, February 19

- Epidemiology of the top causes of morbidity and mortality among children globally – J. Butterly
 1. Listen to recording on Canvas
 For the following articles you are only responsible for reading the abstracts.
 2. Child Survival I, Lancet 2003;361:2226-34.
 3. Child Survival II, Lancet 2003;362:65-71.
 4. Child Survival III, Lancet 2003;362:159-64.
 5. Child Survival IV, Lancet 2003;362:233-41.
 6. Child Survival V, Lancet 2003;362:323-27.
- Treating HIV: drug discovery and antiretrovirals in the US – Bryan Marsh, MD, Associate Professor of Medicine, Infectious Disease and International Health Section
 1. Sepkowitz KA. AIDS--The First 20 Years, New England Journal of Medicine, Volume 344, No. 23, June 7, 2001, pages 1764-1772.
 2. Sepkowitz KA. One Disease, Two Epidemics--AIDS at 25. New England Journal of Medicine, Volume 354, No. 23, pages 2411-2414.

Tuesday, February 24**Reading reflection #5 due by noon for last names M-Z**

- History of HIV in Africa – Ford von Reyn, MD, Professor of Medicine, Infectious Disease and International Health Section
 1. *Understanding Global Health*, Chapter 10: Tuberculosis and HIV/AIDS, pages 249-263.
- When patents and patients collide: Introducing Antiretrovirals in Sub-Saharan Africa – L. Adams
 1. Drug Patents Spotlight: Sharing Practical Knowledge About Pharmaceutical Patents, *Medecins Sans Frontieres*, Geneva, Switzerland, May 2003, pages 1-27.
 2. Africa's AIDS War. *The New York Times*, March 10, 2001.
 3. Drug Makers Drop South Africa Suit Over AIDS Medicine. *The New York Times*, April 20, 2001.

Lessons Learned from Pandemic Influenza Responses and Smallpox Eradication**Thursday, February 26**

- Ethics, medicine and research – James Bernat, Professor of Neurology
 1. *Understanding Global Health*, chapter 16, *The Four Principles of Ethics in Global Health and Culture*, pages 304-5.
 2. Moral Standards for Research in Developing Countries: From “Reasonable Availability” to “Fair Benefits.” *Hastings Center Report* May-June 2004, pages 17-27.
 3. Ethical Issues in the Design and Conduct of Clinical Trials in Developing Countries. *New England Journal of Medicine*, Volume 345, No. 2, July 12, 2001, pages 139-142.
 4. Undue Inducement in Clinical Research in Developing Countries: Is It A Worry? *The Lancet*, Volume 366, July 23, 2005, pages 336-340.
 4. Yale Pressed to Help Cut Drug Costs in Africa. *The New York Times*, March 12, 2001.
- HIV Advocacy from Frontlines – Dawn Averitt, HIV Advocate, Member of the Presidential Advisory Committee on HIV/AIDS

Tuesday, March 3

- Eradicating smallpox: stories from the field – Jason Weisfeld, MD, MPH, Adjunct Instructor of Medicine, Infectious Disease and International Health Section.
 1. *Viruses, Plagues, and History: Past, Present and Future*. Oldstone M. Oxford University Press, Chapter 4, Smallpox; pages 53-101 (focus on pages 72-101)

Thursday March 5

- QUIZ #3
- Office hours for final projects

General Course Details

Course Structure, Requirements, Materials, and Student Evaluation

Course Structure and Expectations for Students

The course will consist of lectures by faculty and guest faculty, and presentations of important topics by pairs of students. X-hour sessions are generally not used, though group review sessions may be scheduled upon request. A course textbook, *Understanding Global Health*, will be used. Additional required reading materials will be posted on Canvas. PowerPoint slides from each class and accompanying taped lectures for some of the class sessions will be posted on Canvas.

Expectations for and grading of students consists of several elements:

- Three quizzes will be given during Weeks 3, 7 & 9 of the course (multiple choice, true/false, matching, and short essays to cover the main points in lectures, the reading and the class discussions) to be taken online during class.
- During the class, 3 case studies will be discussed in depth and classroom participation during these sessions will be critically evaluated for evidence of prior preparation, knowledge of the case and any other associated readings, and critical analysis. Grades for classroom participation for these classes will be issued separately from overall in-class participation.
- The final poster project should examine a key global health issue that that was not covered in the class. Posters will require independent research and analysis with proper citing of all reference materials utilized. You will work in groups of 3-4 on your posters. Posters will be presented orally during the final exam period assigned to the class.

Students will be expected to do the daily readings in advance of class, meet all the assigned deadlines, participate in a case discussion, take the assigned quizzes as scheduled and produce a final poster.

Course Evaluation and Grading

The breakdown for final grades is as follows:

Quiz #1	15 %
Quiz #2	15 %
Quiz #3	15 %
3 Case Discussions (2% each)	6 %
Reading reflections (1.2% each x 5)	6 %
In Class Participation	13 %
Final Poster Project	30 %
Total	100 %

Grading of quizzes, presentations, and the poster will be by both course faculty. Posters will be graded as follows: 1/3 for the quality of the research, 1/3 for the quality of the presentation, and 1/3 for the quality of the analysis. Detailed instructions for preparing and presenting your poster will be distributed in class.

The assignment of letter grades will be based on a class curve. Students achieving 90% of total course points will receive “some kind of A”; students failing to achieve 50% of course points OR failing to complete all the course assignments in a timely fashion will receive a failing grade.

To encourage **active learning and participation** in the course, we have assigned 10% of the final grade to class participation. In assessing this, we will look for evidence that the student is intellectually engaged with the course, is providing interesting insights to peers and is contributing to the general learning atmosphere of the course. Ways students can demonstrate this include:

- Active participation in class with thoughtful questions and/or comments
- Indications through class participation that reading was completed and considered prior to class
- Good use of office hours and the X-hour/review sessions

Taken together, this does provide you an opportunity to influence your final letter grade. However, we will look for evidence that you have done these things **throughout the course** and not just intermittently or towards the end of the course.

Course Materials

The REQUIRED textbook for the course *Understanding Global Health: Second Edition* edited by William H. Markle, Melanie A. Fisher, and Raymond A. Smego (ISBN 978-0071791007) is available for purchase from Wheelock Books. A copy of the textbook is also on reserve at Kresge library in Fairchild. ALL are expected to have done the reading for class. Primary research papers and helpful review articles for each topic are also utilized, in addition to excerpts from the textbook. The course website is accessible via Canvas to enrolled students. Other required readings, PowerPoint slides, web links, discussion boards and other limited access materials will be posted. Student access to the Canvas site will be by DND name and student ID number. For preparation of the student group presentations, your group mentors will be able to help steer you to some important reference information. A number of important textbooks may be kept on Baker library reserve (listed above) for use in general class work and for use in the preparation of student presentations.

Other Course Issues

Office Hours: Students are very much encouraged to utilize office hours for discussion and questions and to work on their assigned presentations with their assigned faculty mentor. Office hours for Professors Adams and Butterly will be announced at the beginning of the course.

X-hours: X-hours will be not be routinely utilized (we are aware many students have lab sessions that prevent their participation during the X-hour). Based on student poll we may use X-hours for review sessions. These will be scheduled during the term.

Course Accommodations: Students with disabilities, including chronic diseases, learning disabilities, and psychiatric disabilities are encouraged to discuss with the course faculty any appropriate accommodations that might be helpful. Please do this EARLY in the course. We have worked closely with the Academic Skills Office in the past and can work with students to find study methods, tutoring needs and exam accommodations for those who are eligible.

Dartmouth Academic Honor Principle: The Dartmouth College Student Handbook (page iii) states: "Fundamental to the principle of independent learning are the requirements of honesty and integrity in the performance of academic assignments, both in the classroom and outside. Dartmouth operates on the principle of academic honor, without proctoring of examinations. Students who submit work which is not their own or who commit other acts of academic dishonesty forfeit the opportunity to continue at Dartmouth."

There are a number of situations in which a student in Geography 02 might find him or herself tempted to violate the Academic Honor Principle. These situations include (but are not limited to) the following:

- a) The quizzes will be on-line and taken during weeks 3, 7 and 9. The quizzes will consist of some multiple-choice answers, short answers and short essays.
- b) Any form of plagiarism, namely the submission or presentation of work, in any form, that is not the student's own without acknowledgement of the source, violates the Academic Honor Principle. Students are responsible for the information concerning plagiarism and proper citation found in the Sources: Their Use and Acknowledgement, available in the Deans' Offices and online (<http://www.dartmouth.edu/~sources/>).

Honesty is the foundation of the academic pursuit of knowledge. In recognition of this, we will not overlook any violations of the Academic Honor Principle. Indeed, the Faculty Handbook of Dartmouth College states explicitly that College Faculty are obligated to report potential violations of the Academic Honor Principle to the Dartmouth College Committee on Standards.