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## Emerging Infectious Diseases and Global Climate Change Mini-Elective Spring 2009

<u>Course Dates:</u>	April 6, 13, 20, 27 Mondays, 1:00—3:00 PM
<u>Maximum Students:</u>	8
<u>Class Year:</u>	MS1
<u>Course Director:</u>	Samuel Stebbins, MD, MPH Director, University of Pittsburgh Center for Public Health Preparedness
<u>Contact Information:</u>	Samuel Stebbins, MD, MPH 412-383-2400 stebbins@pitt.edu
<u>Registration:</u>	Betsy Nero, Office of Medical Education betsy@medschool.pitt.edu

### Description:

This four-session mini-elective will introduce medical students to new microbial threats and the role of physicians in preparing for and responding to outbreaks and health emergencies. The course will cover a range of topics including:

- Emerging Infectious Diseases including Pandemic Influenza, MRSA, Dengue and more!
- Global Climate Change.
- Use of computer modeling to simulate outbreaks and response.
- Medical and Public Health preparedness at local, state, national and international levels.
- Personal Protective Equipment.

### Objectives:

- Learn about emerging infectious diseases.
- Explore interactions between human and animal microbiology and the zoonoses which result.
- Find out how climate change and global warming are changing infectious diseases around the world.
- Improve understanding of infection control and personal protection.
- Explore uses of agent-based simulation to predict and describe outbreaks.
- Experience how physicians, emergency response officials and public health professionals interact in preparing for and responding to outbreaks and pandemics.

### Requirements:

1. Actively participate in all 4 course sessions
2. Read assignments
3. Evaluate the course at the end of the last class

## **Course Outline:**

### **Emerging Infectious Diseases**

#### **Course Director:**

Samuel Stebbins, MD, MPH

Director, University of Pittsburgh Center for Public Health Preparedness

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#### **Location:**

All sessions

Center for Public Health Practice

Room A731, Crabtree Hall

130 DeSoto St – Graduate School of Public Health

#### **Week One–April 6, 2009**

Emerging Infectious Diseases (1)

- Introduction
- Microbes, insects, animals and people
  - ◊ New pathogens.
  - ◊ Existing pathogens in new settings and/or with new resistance factors.

#### **Week Two–April 13, 2009**

Emerging Infectious Diseases (2)

- Local, national and international surveillance systems
- Computational modeling
- Pandemic Influenza
  - Risk for the future
  - Effectiveness of medications, vaccines, and non-pharmaceutical intervention

#### **Week Three–April 20, 2009**

Emerging Infectious Diseases (3)

- Vaccines and vaccine development.
- Genetics of microbe pathogenicity.
- Laboratory testing.

#### **Week Four–April 27, 2009**

Preparation and Response

- Personal protection.
- Infection control in hospitals and other healthcare settings.
- Local, national and international readiness.

#### **Texts:**

- Reading materials will be e-mailed to students prior to each class.