

EPIDEMIOLOGY 231
Principles of Control of Infectious Diseases
Spring Quarter 2003
UCLA School of Public Health Department of Epidemiology

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Office Hours: Thursdays, 4:00 to 5:00 pm or by appointment

Units: Two

Prerequisites: Course 200 and 220 or consent of instructor

Time: Thursdays, 5:00 to 6:50 pm.

Place: Room 71-257 CHS

Suggested Reading: Kim-Farley, RJ: "Global strategies for control of communicable diseases" in Oxford Textbook of Public Health edited by Detels R, McEwen J, Beaglehole R, and Tanaka H, 4th Edition, pp. 1839-59.

Centers for Disease Control and Prevention (CDC) website on infectious diseases (http://www.cdc.gov/ncidod/diseases/index_ip.htm#p).

World Health Organization (WHO) website on infectious diseases (http://www.who.int/health_topics/infectious_diseases/en/).

Abbreviated Course Description: A comprehensive study of the tools for the control of infectious diseases and the application of these tools in public health programs to achieve an epidemiologic impact on disease reduction, elimination or eradication.

Detailed Course Description:	<p>A comprehensive study of the tools available for the control of infectious diseases that include:</p> <ul style="list-style-type: none"> • control measures applied to the host; • control measures applied to vectors; • control measures applied to infected humans; • control measures applied to animals (to control zoonoses); • control measures applied to the environment; and • control measures applied to the agent. <p>An overview of the programs developed and implemented to apply these tools to populations to reduce, eliminate and eradicate diseases that includes:</p> <ul style="list-style-type: none"> • Immunization programs such as the Expanded Programme on Immunization (EPI) and the polio eradication initiative; • Chemotherapy programs such as Tuberculosis control programs like the Stop TB initiative; and • Environmental control programs such as the guinea worm eradication program.
Objectives:	<ol style="list-style-type: none"> 1) Provide an understanding of the range of tools available to control infectious diseases that can be applied to the host, to vectors, to infected humans, to animals (to control zoonoses), to the environment, and to agents. 2) Provide an understanding of how the tools available for control of infectious diseases can be applied in public health programs to reduce, eliminate or eradicate diseases in populations. 3) Provide an understanding of some of the current major public health control programs both domestically and internationally, including preparedness programs for bioterrorism.
Grading	<p>Classroom participation (20% of final grade). Paper (20% of final grade). Presentation of paper to the class (20% of final grade). Final exam (40% of the final grade).</p>
Course Outline:	Annex 1.
Grading:	<p>Classroom participation (20% of final grade). Paper (20% of final grade). Presentation of paper to the class (20% of final grade). Final exam (40% of final grade).</p>
Participation:	Attendance and active participation in classroom discussions.
Paper:	<p>Proposed topics to be submitted by 17 April. Approximate length: 5 – 10 pages (double-spaced).</p>

Due date: 15 May.

Examples of Topics in Annex 2.

Graded on organization, original thought and interpretation on the subject and background materials, and overall quality of the paper.

Presentation:

10 minute classroom presentation

In-class presentations starting on 15 May.

Graded on organization, clarity of presentation, effective use of visual materials, and quality of a one-page handout with the major points.

Final Exam:

12 June, Thursday, 6:30 to 9:30 pm.

True/False, multiple choice, fill in the blank, and short answer.

Annex 1: Course Outline

- 03 APRIL: No class
- 10 APRIL: Introduction to the approach and methodology of the course.
- Handout: (1) Epidemiology 231; and (2) Global strategies for control of communicable diseases.
- What's new? Latest information over the last week on control of infectious diseases. Suggest links such as:
<http://www.promedmail.org>
- Definitions of infectious diseases and their control.
- Global burden of infectious diseases and the chain of infection: agent, transmission, and host.
- 17 APRIL: Control measures applied to the host: active immunization, passive immunization, chemoprophylaxis, behavioral change, reverse isolation, barriers, and general improvement in host resistance.
- What's new? Latest information over the last week on control of infectious diseases.
- Paper topics due.
Discussion on papers and presentations.
- 24 APRIL: Control measures applied to vectors: chemical control, environmental control, and biological control.
- What's new? Latest information over the last week on control of infectious diseases.
- 01 MAY: Control measures applied to infected humans: chemotherapy, isolation, quarantine, restriction of activities, and behavioral change.
- What's new? Latest information over the last week on control of infectious diseases.
- 08 MAY: Control measures applied to animals: active immunization, restriction or reduction, and chemoprophylaxis and chemotherapy.

What's new? Latest information over the last week on control of infectious diseases.

15 MAY: Midterm papers due.

Control measures applied to the environment: provision of safe water, proper disposal of feces, food sanitation, milk sanitation, and other methods.

What's new? Latest information over the last week on control of infectious diseases.

Classroom presentations.

22 MAY: Control measures applied to the agent.

What's new? Latest information over the last week on control of infectious diseases.

Classroom presentations.

29 MAY: Application of control measures in public health programs to reduce, eliminate or eradicate diseases in populations – the EPI and polio eradication example.

What's new? Latest information over the last week on control of infectious diseases.

Classroom presentations.

05 JUNE: Application of control measures in public health programs to reduce, eliminate or eradicate diseases in populations (Continued) – the Stop TB Initiative and the Guinea Worm eradication program examples.

What's new? Latest information over the last week on control of infectious diseases.

Classroom presentations.

Hints on the final exam.

12 JUNE: Final exam: Thursday, 6:30 to 9:30 pm.

Annex 2: Examples of topics suitable for paper and classroom presentation

Topics should be related to an aspect of control of infectious diseases. Examples include:

Control Programs:

- The Stop TB program.
- The guinea worm eradication program.
- The global polio eradication program.
- The global leprosy elimination program.
- The global roll back malaria program.
- Control of Diarrheal Diseases program.
- The Integrated Management of Childhood Illness program.
- Control of Acute Respiratory Illness program.

Alliances and Funding Programs:

- The global fund for AIDS, TB and Malaria.
- The Global Alliance for Vaccines and Immunization (GAVI).

New Issues in Disease Control:

- Severe Acute Respiratory Syndrome.
- The National Smallpox Vaccination Program.

Special Aspects of Disease Control:

- The role of behavior change in infectious disease control.
- Investigation of Food borne outbreaks.
- Determining vaccine efficacy.
- Surveillance for a specific infectious disease.