College of Public Health

Date approved by the home Department: September 19, 2001

Date approved by the CPH Curriculum Committee: November 2001

I. COURSE NUMBER AND TITLES
Course Number: 173:255
Official Title: Epidemiology of Infectious Diseases
Transcript Title: Epi Infectious Dis

II. BRIEF COURSE DESCRIPTION
The course is comprised of topical lectures and brief student oral presentations. We will offer distance learning participation via a course web site, and the internet (via PolyCom or vClass software). The lectures will be archived in a video streaming format for later review via the course web site.

III. CREDIT HOURS
3 semester hours

IV. SCHEDULING
Fall, annually

V. CROSS-LISTED COURSE NUMBER AND DEPARTMENT
152:257 (Global Health Studies)

VI. COURSE DIRECTOR / INSTRUCTORS
Course director & primary instructor: Gregory C. Gray, MD, MPH
College of Public Health
Other instructors: Numerous guest lecturers

VII. DEGREE PROGRAMS REQUIRING THIS COURSE
None

VIII. COURSE PRE-REQUISITES OR CO-REQUISITES
173:140 Principals of Epidemiology or equivalent

IX. STUDENTS FOR WHOM THE COURSE IS INTENDED
This course is primarily designed for public health students seeking their Masters degree.

X. RELATIONSHIP OF THIS COURSE TO OTHER COURSES
This course is given by the College of Public Health. This means that class policies on matters such as requirements, grading, and sanctions for academic dishonesty are governed by the College of Public Health. Students wishing to add or drop this course after the official deadline must receive the approval of the Dean of the College of Public Health. Details of the University policy of cross enrollments may be found at: http://www.uiowa.edu/~provost/deos/crossenroll.pdf

XI. TEACHING METHODS
The course if comprised of topical lectures, and brief student oral presentations at the course end.

XII. EVALUATION OF STUDENT PERFORMANCE

Students will be evaluated by their performance on four examinations (3 midcourse, 1 final) and an oral presentation. The examinations will be comprised of multiple-choice questions and will use an optically scanned answer sheet. Multiple-choice questions will be drawn from the lectures, from the lecture notes, and from the textbook readings. The four examinations will comprise 80% of the grade (20% for each midcourse examination; 20% for the final examination). Each student will be required to prepare and present a brief PowerPoint presentation to the class regarding a vaccine or an emerging infectious disease. This presentation will comprise the final 20% of grade.

XIII. COURSE OBJECTIVES

Given the ecology of a specific human infectious disease and its symptomatology, the student should be able to assess and correlate the epidemiological factors important to its appearance, its transmission, its endemic continuity, it epidemic spread, and those factors important in its control, including those investigations necessary to these ends.

Given a specific infectious disease, the student should be able to find and outline:

1. the information important for confirmation of the diagnosis;
2. the host factors important to propagation, common reservoirs, transmission, morbidity and mortality;
3. the route of transmission;
4. the route of entry and incubation period of the disease under question;
5. the data outlining the methods for limiting transmission and spread; and
6. other treatment of prophylactic measures necessary for immediate and long-term control.

Goals:

1. To encourage the student to associate the etiologic, ecologic, pathophysiologic and epidemiological factors important to the major groups of infectious diseases.
2. To foster an appreciation for the value of epidemiological principles and methods in the identification and control of infectious diseases.
3. To develop skills in applying epidemiological principles and methods in solving problems related to infectious diseases.

XIV. INSTRUCTIONAL MATERIALS

Required Text:

Infectious Disease Epidemiology: Theory and Practice, 2nd edition, KE Nelson, CM Williams, NMH Graham eds., 2006.

Control of Communicable Diseases Manual (CCDM), 19th edition, David L. Heymann, MD, ed., 2008

XV. TOPIC OUTLINE

Class	Date	Speaker	Title	Required Readings
1	Mon Aug 24	Gray	Course overview, history, and general principals of infectious disease epidemiology; Center for Emerging Infectious Diseases activities	IDE 3-60
2	Wed Aug 26	Pentella	An introduction to microbiology for the epidemiologist	IDE 241-279
3	Mon Aug 31	Gray	Infectious disease surveillance	IDE 119-143
4	Wed Sept 2	Quinlisk	An introduction to outbreak investigations	IDE 147-177; CCD xxviii-xxxii
5	Wed Sept 9	Gray	Host factors	IDE 317-341
6	Mon Sept 14	Gray	Vaccines	IDE 345-379; CCD 700-701
7	Wed Sept 16	Torner	Quantitative methods and modeling	IDE 63-112; 181-208
8	Mon Sept 21	Desjardin	Pathogen detection and molecular epidemiology	IDE 281-311
9	Wed Sept 23	Gray	Bioterrorism	CCD 20-25; 69-75; 406-412; 491-495; 573-576
10	Mon Sept 28	Gray	Environmental factors: climate, socioeconomic, nutrition, and behavior / Exam 1	IDE 213-239; 383-400
11	Wed Sept 30	Herwaldt	Nosocomial infections	IDE 505-551
12	Mon Oct 5	Gray	Acute respiratory infections	IDE 699-739; CCD 413-419; 421-425; 507-514
13	Wed Oct 7	Kirchhoff	Trypanosomiasis, leprosy, leptospirosis	CCD 302-306; 306-309; 553-560
14	Mon Oct 12	Legge	Influenza	IDE 577-595; CCD 281-287
15	Wed Oct 14	Desjardin	Tuberculosis. Oral presentation scenarios due to Dr. Gray	IDE 653-689; CCD 560-573
16	Mon Oct 19	Meier	Human immunodeficiency virus and Acquired Immunodeficiency Syndrome	IDE 789-872; CCD 1-9
17	Wed Oct 21	Brown	Viral hepatitis	IDE 895-939; CCD:247-268
18	Mon Oct 26	Gray	Emerging infectious diseases	IDE 407-489; 1023-1057
19	Wed Oct 28	Baker / Gray	Yellow fever and dengue / Exam 2	CCD 146-152; 595-600
20	Mon Nov 2	Murph	Common childhood diseases: The effect of out-of-home child care	CCD 94-99; 224-227; 347-354; 359-366; 399-404; 425-431; 528-533
21	Wed Nov 4	Gray / Starks	Sexually transmitted diseases	IDE 963-1002; CCD:100-102; 232-236; 518-524
22	Mon Nov 9	Wilson	Malaria and schistosomiasis	IDE 1087-1129; 1144-1151 CCD 324-334; 335-340; 476-480
23	Wed Nov 11	Putnam / Chorazy	Diarrheal diseases	IDE 759-779; CCD 81-84; 103-114; 159-171;469-473; 487-491
24	Mon Nov 16	Smith	Streptococci	Same as for acute respiratory infections
25	Wed Nov 18	Murph	Common childhood diseases: Preventable childhood diseases	Same readings as Dr. Murph's first lecture
26	Mon Nov 30	Messer/ Gray	Important fungal diseases Exam 3	CCD 67-69; 121-123; 137-138; 273-276
27	Wed Dec 2	Gray, Heil Smith	Student presentations	
28	Mon Dec 7	Gray, Heil, Smith	Student presentations	
29	Wed Dec 9	Gray, Heil, Smith	Student presentations	
30	Tbd Dec 14?	Gray	**Final exam**	

Guidelines for Student PowerPoint Presentations:

This course will give students a very practical experience. Each student will pitch an infectious disease health policy to a skeptical audience in a mock setting. This exercise will introduce the student to the practice of concisely presenting and defending a position regarding a controversial infectious disease public health issue. Such presentational skills will prove valuable no matter how the student chooses to use their graduate degree.

Students will work with Dr. Gray in choosing their topic and submit the final scenario and title to Dr. Gray via email by October 8th. Students should choose an interesting title and describe in no more than 100 words the setting of their presentation with the issue and skeptical audience described. The best oral presentations present a disease issue not covered in regular lectures to an potentially hostile audience.

Examples of previous scenarios and PowerPoint files can be found on the course web site. Once the scenario and title are approved, the student will research the issue in the medical literature, the internet, and via various news sources. The student will next prepare a 5 minute factual oral PowerPoint presentation. At a scheduled time near the end of the semester, this presentation will be made to the class and to a panel of judges. The panel of judges and fellow students will score the presenting student on his or her **scientific information**, **presentation skills**, and **response to questions**. The average judges' scores will count as 60% and the average student scores will count as 40% of the presenting student's presentation grade.

As the judges will be encouraged to ask questions after each presentation, students will need to perform considerable research and readings on their topic to be well-prepared.

Students are encouraged to be creative in how they present their information but to focus their supportive arguments on epidemiology. A typical presentation outline would be:

1. Introduce the public health policy (1 minute)
2. Defend the policy with epidemiological facts that a lay person will understand (2-3 minutes)
3. Reassure the audience regarding the policy (1 minute)
4. Field questions (1-3 minutes)

Last revised July 27, 2009