1. Submitted by College of Medicine Date August 21, 2001
   Department/Division offering course School of Public Health

2. Proposed designation and Bulletin description of this course
   a. Prefix and Number SPH 612
   b. Title* Infectious / Emerging Diseases Epidemiology.
      *NOTE: If the title is longer than 24 characters (including spaces), write
      A sensible title (not exceeding 24 characters) for use on transcripts Infectious Diseases Epi
   c. Lecture/Discussion hours per week 3
   d. Laboratory hours per week 0
   e. Studio hours per week 0
   f. Credits 3
   g. Course description
      The theory/concepts of infectious diseases epidemiology, such as epidemic modeling expostulated through a systematic study of the more recent emerging diseases.
   h. Prerequisites (if any)
      Enrollment in a Public Health degree program or consent of instructor.
   i. May be repeated to a maximum of ______________________________________________________________________ (if applicable)

4. To be cross-listed as
   Prefix and Number __________________________________________________________________ Signature, Chairman, cross-listing department

5. Effective Date Fall 2003 (semester and year)

6. Course to be offered □ Fall ☑ Spring □ Summer

7. Will the course be offered each year? ☑ Yes □ No
   (Explain if not annually)

8. Why is this course needed?
   This course fulfills a concentration requirement in the Public Health curriculum.

9. a. By whom will the course be taught? Steve T. Fleming, Ph.D
   b. Are facilities for teaching the course now available? ☑ Yes □ No
      If not, what plans have been made for providing them?
APPLICATION FOR NEW COURSE

10. What enrollment may be reasonably anticipated? 20-30

11. Will this course serve students in the Department primarily? ☒ Yes ☐ No
   Will it be of service to a significant number of students outside the Department? ☒ Yes ☐ No
   If so, explain.
   The course may be attractive to students in the schools of Medicine, Nursing, and Pharmacy

12. Check the category most applicable to this course
   ☒ traditional; offered in corresponding departments elsewhere;
   ☐ relatively new, now being widely established
   ☐ not yet to be found in many (or any) other universities

13. Is this course part of a proposed new program? ☐ Yes ☒ No
   If yes, which?

14. Will adding this course change the degree requirements in one or more programs?* ☐ Yes ☒ No
   If yes, explain the change(s) below

15. Attach a list of the major teaching objectives of the proposed course and outline and/or reference list to be used.

16. If the course is a 100-200 level course, please submit evidence (e.g., correspondence) that the Community College System has been consulted.

17. Within the Department, who should be contacted for further information about the proposed course?
   Name  Joel Lee, Dr.P.H.  Phone Extension  323-5059 x285

*NOTE: Approval of this course will constitute approval of the program change unless other program modifications are proposed.

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UNIVERSITY OF KENTUCKY
APPLICATION FOR NEW COURSE

Signatures of Approval:

__________________________________________  ___________________________________________
Department Chair  Date

__________________________________________  ___________________________________________
Dean of the College  Date

__________________________________________
Date of Notice to the Faculty

__________________________________________  ___________________________________________
*Undergraduate Council  Date

__________________________________________  ___________________________________________
*University Studies  Date

__________________________________________  ___________________________________________
*Graduate Council  Date

__________________________________________  ___________________________________________
*Academic Council for the Medical Center  Date

__________________________________________  ___________________________________________
*Senate Council (Chair)  Date of Notice to University Senate

*If applicable, as provided by the Rules of the University Senate

__________________________________________
ACTION OTHER THAN APPROVAL

Rev 11/98
SPH 612: INFECTIOUS AND EMERGING DISEASE EPIDEMIOLOGY

Course Instructor: Steven T. Fleming, Ph.D.
CAHP Building Room 113C
(859) 323-5059 ext. 276 (Phone Health Services Management Office)
(859) 323-5059 ext. 279 (Phone: Work-Office)
Office Hours: (Tuesday and Thursday 8:30-4:30 by appointment)

COURSE REQUIREMENTS

1. Mid-term examination 30%
2. Final examination 30%
2. Research Paper 40%

Course grading will be based upon the criteria stated in the University Bulletin.

TEXTS:


COURSE DESCRIPTION

The theory and concepts of infectious disease epidemiology, such as epidemic modeling, are expostuated through a systematic study of the more recent emerging and reemerging diseases.

COURSE OBJECTIVES

1. To understand the concepts of infectious disease epidemiology, such as epidemic and outbreak modeling, surveillance, and contact patterns.
2. To understand emerging disease within the context of changing human ecology and behavior.
3. To understand the etiology and epidemiology of the major infectious diseases which have plagued humankind for centuries, such as tuberculosis, malaria, and cholera.
4. To understand the etiology and epidemiology of the more recent emerging diseases, such as AIDS, Hantavirus, and Lyme disease.
**SPH 612: Infectious and Emerging Diseases Epidemiology**

**COURSE OUTLINE**

<table>
<thead>
<tr>
<th>Class</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1.</td>
<td>Introduction to emerging and infectious diseases epidemiology, theory of epidemics, risk, relative risk, attack rate</td>
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<tr>
<td>2.</td>
<td>Nosocomial infections, antibiotic and drug resistance, toxic shock syndrome, flesh-eating bacteria</td>
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<td>3.</td>
<td>Tuberculosis</td>
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<td>4.</td>
<td>Detection and analysis of outbreaks: common vehicle pathogens - cholera, E. Coli, Norwalk Virus</td>
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<td>5.</td>
<td>Mathematical models of epidemics: influenza, Legionnaires</td>
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<td>6.</td>
<td>Study of contact patterns: AIDS/HIV</td>
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<td>7.</td>
<td>Routine surveillance: other sexually transmitted diseases - syphilis, herpes</td>
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<td>8.</td>
<td>Seroepidemiology: CDC special pathogens - Ebola and Hantavirus</td>
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<td>9.</td>
<td>Measuring infectivity: vector borne emerging diseases</td>
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<tr>
<td>10.</td>
<td>Dengue and malaria</td>
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<tr>
<td>11.</td>
<td>The natural history of disease: West Nile Virus, Lyme disease</td>
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<tr>
<td>12.</td>
<td>Methods to decide if illness is infectious: prions - Bovine spongiform encephalopathy, Creutzfeldt-Jakob disease</td>
</tr>
<tr>
<td>13.</td>
<td>Survival analysis: the infectious and chronic disease link - HPV and cervical cancer; hepatitis and liver cancer, Epstein-Barr and lymphoma; H. pylori and stomach cancer; plague and HIV, malaria and sickle-cell anemia</td>
</tr>
<tr>
<td>14.</td>
<td>Epidemiology of vaccination: germ warfare: anthrax, plague</td>
</tr>
</tbody>
</table>
SUGGESTED READINGS

Introduction to emerging and infectious diseases epidemiology, theory of epidemics, risk, relative risk, attack rate


Nosocomial infections, antibiotic and drug resistance, toxic shock syndrome, flesh eating bacteria


**Tuberculosis**


**Common vehicle pathogens - cholera, E. Coli, Norwalk Virus**


**Viral Gastroenteritis**


Protozoic Gastroenteritis


**Influenza and Legionnaire’s Disease**


Prion Diseases


Sexually Transmitted Diseases


**Hemorrhagic Fever**


**Vectorborne-Mosquito: Malaria, Dengue, Yellow Fever**


Vectorborne-Tick: Ehrlichiosis, Lyme


**Arboviral Encephalitis: West Nile, Eastern Equine**


**Bioterrorism**

12. Kaufmann AF, Meltzer MI, Schmid GP. The economic impact of a bioterrorist attack: are prevention and postattack intervention programs

Suggested references on the web from the journal Emerging Infectious Diseases