UNIVERSITY OF KENTUCKY
APPLICATION FOR NEW COURSE

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 617
   b. Title* Environmental / Occupational Epidemiology
      *NOTE: If the title is longer than 24 characters (including spaces), write
      A sensible title (not exceeding 24 characters) for use on transcripts Environ / Occup 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
      A study of work-related and environmental exposures and hazards associated adverse health outcomes. Integrating the
      fields of occupational and environmental epidemiology.
   h. Prerequisites (if any)
      Enrollment in a Public Health degree program and SPH 605/PM 620 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 Spring 2002 ___________________________ (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? Claudia Hopenhayn, Ph.D.

   b. Are facilities for teaching the course now available?
      If not, what plans have been made for providing them? ☑ Yes ☐ No
10. What enrollment may be reasonably anticipated? __________________________________________

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?  
If so, explain.

☐ Yes  ☒ No

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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Signatures of Approval:

__________________________  _______________________
Department Chair

__________________________  _______________________
Dean of the College

__________________________  _______________________
*Undergraduate Council

__________________________  _______________________
*University Studies

__________________________  _______________________
*Graduate Council

__________________________  _______________________
*Academic Council for the Medical Center

__________________________  _______________________
*Senate Council (Chair)

__________________________  _______________________
Date of Notice to the Faculty

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

__________________________  _______________________
Date of Notice to University Senate

__________________________  _______________________
ACTION OTHER THAN APPROVAL

Rev 11/98
Course Description and Objectives

This course provides a background in the epidemiology of work-related and environmental exposures and hazards associated adverse health outcomes. It brings together the fields of occupational and environmental epidemiology, focusing on both their common and distinct concepts and methodologies. The course will combine lectures on basic epidemiologic methods used in these fields, with applied examples drawn from local and international examples. Some lectures will be given by invited speakers with experience in specific areas relevant to the material covered, which will present work from their studies to illustrate the practical application in the field. Student participation will be required in active class discussions and presentations.

Required and Suggested Books (to be determined):


These will be supplemented with articles specific to the lecture material (list to be assembled).

Course Requirements and Grading

10% Lead Class discussion of and assigned journal article
20% Brief reports on specific subject: exposure assessment, follow-up, health outcomes
35% Case study project: class presentation
35% Final Paper
100%

100-90% = A
89-80% = B
79-70% = C
69-60% = D
59 - 0% = F

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

Class Schedule

1. Orientation and introductions: course topics:
   Introductory descriptions of the fields of occupational and environmental epidemiology, their similarities and differences.
   Interaction with other fields: industrial hygiene, engineering, ecology, geology, biology, toxicology.
2. History and evolution of occupational and environmental epidemiology: role of change in work and environment: local, national, and global perspectives.
3. Principles of exposure assessment: the work environment; the residential environment. Routes of exposure: air, water, soil, other (eg. noise, radiation); routes of exposure: ingestion, inhalation, dermal, other.
5. Reconstruction of exposure based on past and present: Classification based on internal and external comparison. Effect of health hazard measured on the method of exposure assessment and the relevance of past and present exposures (eg cancer versus miscarriages).


7. Environmental Exposures: natural and international examples, chronic versus accidents and disasters (eg mining, construction, Chernobyl, De Vesso, Spain oil spill? Bhopal?...).

8. Arsenic as a case study: introduction to occupational and environmental hazard; past and present; natural versus anthropogenic; laboratory versus epidemiologic evidence; multiple health effects.

9. Discussion of occupational smelter study reading (Enterline et al); Discussion of environmental effects from drinking water (Hopenhayn-Rich et al).

10. Discussion of topics for evaluation of exposure and outcome in selected case study. Discussion of class presentations and papers.

11. Study designs in occupational and environmental epidemiology: ecologic, case-control and cohort studies: mixed designs; the healthy worker effect.

12. Cancer studied in occupational and environmental settings


14. Guest Lecture (KY Health Department...)
   Environmental lead exposure and effects on children

15. Guest Lecture: Susan Pinney, University of Cincinnati
   Surveillance of occupational and environmental exposures and effects. Workers and residents around nuclear facility

16. Investigation of disease outbreaks; cluster investigations, real or chance findings?; media coverage (movies: A Civil Action, Erin Brockovic)

17. Use of GIS in environmental epidemiology

18. Use of biomarkers in occupational and environmental epidemiology

19. Guest Lecture: Beth Whelan, NIOSH

20. Farm workers and the hazards of injury: occupational and environmental; worker and family farm hazards (Deb Reed)

21. Tobacco: occupational exposure and green tobacco sickness: and environmental tobacco smoke (ETS)

22. Air pollution; indoor and outdoor air exposures: the continuum from occupational to environmental hazards; final paper due

23. Guest Lecture: Grace LeMasters, University of Cincinnati
   Solvents and the effect on female reproductive system

24. Students’ presentations

25. Students’ presentations

26. Special occupational groups: health care workers, seasonal workers


28. Use of occupational and environmental studies in settings of standards and regulatory practices; Components of risk assessment; risk communication, risk management.

29. Final Examination