

APPLICATION FOR NEW COURSE

1. Submitted by College of Public Health Date 1-18-2005

Department/Division offering course Preventive Medicine and Environmental Health

2. Proposed designation and Bulletin description of this course

a. Prefix and Number CPH920 b. Title* Advanced Environmental Health

*NOTE: If the title is longer than 24 characters (including spaces), write
A sensible title (not exceeding 24 characters) for use on transcripts Adv. Environ. Health

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

This Professional Seminar in Environmental Health is designed to provide comprehensive coverage of the principles upon which the Environmental Health field relies.

h. Prerequisites (if any)

Admittance into the DrPH curriculum

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 2006 (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?

Is a required course in the DrPH curriculum

9. a. By whom will the course be taught? Gail Montgomery Brion and/or other department faculty

b. Are facilities for teaching the course now available? Yes No
If not, what plans have been made for providing them?

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10. What enrollment may be reasonably anticipated? 10-15 students

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

Will the course serve as a University Studies Program course? Yes No

If yes, under what Area? _____

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 applicable to the requirements for at least one degree or certificate at the University of Kentucky? Yes No

14. Is this course part of a proposed new program:
If yes, which? Yes No

15. Will adding this course change the degree requirements in one or more programs?*

If yes, explain the change(s) below Yes No

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

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

18. If the course is 400G or 500 level, include syllabi or course statement showing differentiation for undergraduate and graduate students in assignments, grading criteria, and grading scales. Check here if 400G-500.

19. Within the Department, who should be contacted for further information about the proposed course?

Name Gail Montgomery Brion Phone Extension 257-4467

*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:

Scott P. ...
Department Chair
André ...
Dean of the College

3/23/05
Date
3/23/05
Date

Date of Notice to the Faculty

*Undergraduate Council

Date

*University Studies

Date

*Graduate Council

Date

Approved by ACMC on April 19, 2005

*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

Chair of AAC
[Signature]
Pamela B. ... Faculty Council Chair

COURSE INFORMATION

Professor: Gail Brion
Assoc. Professor
Primary Appointment, Dept. Civil Engineering
Joint Appointment, Dept. of Preventive Medicine and Environmental Health
Univ. of Kentucky

Office: New Civil Engineering C367

Phone: 257-4467

Fax: 257-4404

email: gbrion@engr.uky.edu

Note: *If I am not in my office, I can usually be found in my lab on the third floor of the New Civil Engineering Building, CE 316.*

Office Hours: Th 3-4 PM, W 10-11 AM, or by appointment

Objectives: This Professional Seminar in Environmental Health is designed to provide comprehensive coverage of the principles upon which the Environmental Health field relies. This will be accomplished through text and journal readings, review of case studies, synthesis and presentation of knowledge on core pollutants, and discussions of the emerging and controversial pollutants and issues in environmental health.

Learning Outcomes: At the successful conclusion to this course, students will:

- **Demonstrate an understanding of the breadth and basis for environmental health.**
 - The Scope
 - The Tools for Exposure Assessment: Toxicology & Risk
 - Places of Exposure
 - Pathways of Exposure: The Media
 - Control Strategies: Regulations and Policies
- **Demonstrate an in-depth understanding of important environmental pollutants.**
 - Be able to prepare a concise literature review for oral presentation.
 - Know the health effects, places and pathways for exposure, and control strategies for the top 20 CERCLA hazardous substances.
- **Demonstrate knowledge of current environmental health issues.**
 - Research journal articles and synthesize findings
 - Understand environmental philosophy
 - Gain awareness of inequities in toxic exposures
 - Be able to debate current environmental health issue
- **Demonstrate an understanding of risk assessment**
 - Calculate a simple, linear example of cancer risk and relate it to environmental concentrations in one media.
 - Understand the differences between cancer and non-cancer risks, modeling, and terminology

Text: Environmental Health, Revised Edition by Dade Moeller, ISBN 0-674-25859-2

A helpful website: <http://www.atsdr.cdc.gov/toxpro2.html>

Grades:

Class Presentations (1 @ 25% each)	25%
Short Papers (3 @ 10% each)	30%
Cancer Problem Homework	10%
Case Study Papers and Final Question Provision	10%
Final Exam	15%
Participation	10%

Assigned Reading: All readings must be done prior to the class meeting where they will be discussed and elaborated upon. I reserve the right to give pop quizzes that can contribute to your participation grade over the material in the assigned reading. Afterall, if you are not prepared, what can you contribute to the discussion?

Participation: Since each student brings their experience to the class, not being there is a detriment to the educational experience of your colleagues. Therefore, you must participate in 75% of all classes to earn the 10% participation points. If there are pop quizzes, they will amount to no more than 1/2 of the 10% available for participation and no make-up will be allowed. If the absences are for illness or other excused reasons, this does not apply.

When there is an excused absence, students will be given the opportunity to make up missed work and/or exams. It is the student's responsibility to inform me of the absence preferably in advance, but no later than one week after it.

The following are acceptable reasons for excused absences:

- 1) serious illness;
- 2) illness or death of family member;
- 3) University-related trips;
- 4) major religious holidays;
- 5) other circumstances I find to be "reasonable cause for nonattendance."

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day for adding a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (257-2754).

Class Presentations: Students will select a pollutant from an in-class drawing and develop a 30-45 minute long, Powerpoint-based, seminar for that pollutant. The pollutants are all from the CERCLA top 20 list provided in this syllabus and have robust amounts of information available. The seminar quality is expected to be at a level of a professional conference presentation and handouts of the slides will be provided for your classmates and for the instructor. The handouts will serve as extra final exam material. The grading of these presentations will be done with the attached presentation evaluation sheet by your peers. The website listed by the text will be quite useful in providing you with the detailed information you need to answer these questions:

What is the pollutant? Where does it come from? How does it move in the environment? Through what media? In what forms? Does it degrade? How are people exposed? Is there a sensitive population? What are the health effects? What are the treatments? How would I know if I've been exposed? What regulations to protect us are in place?

While the ATSDR toxic profile answers most of these questions, you are not limited to this one source of information and are encouraged to discuss a case study linked to your pollutant(s). You are required to provide handouts for your presentations for your classmates.

Case Studies: 10% of your grade is dependent upon your ability to provide your classmates with health related case studies and additional information on the pollutants you will be presenting, along with well reasoned questions drawn from these extra resources. **The case study article(s)/information are due the week before your presentation.** You will be responsible for providing **to me only via email** a 10 point test question(s) and answer(s) based upon the case studies and other information you provide as additional reading to your colleagues **on the week of your presentation.** Points will be deducted for late provision of the reading and/or the questions/answers at a rate of 10% of the allowable points per day overdue.

Final Exam: Your final will be take-home and consist of answering your peer's questions on the case studies and additional information they have provided, along with questions I will ask over the text reading material. It is due on the day and time scheduled for the Final Exam. It may be submitted via email, or handed in to me on the day of the final.

Short papers and Homework Problem: These will be submitted to me either by email or as a hard copy before the end of the class period on the date they were assigned. Points will be deducted for late assignments at a rate of 10% of the allowable points per day overdue. It is the expectation of this graduate class that written work will contain proper language/grammar and conform to conventional usages of reference and writing styles.

Cheating and Plagiarism: Do not try to cheat in this class since very unpleasant things will invariably result. At a minimum you will be assigned an "E" for the course. You are encouraged to visit me during office hours to discuss any problems that you are having with the class. Plagiarism has also become a big problem with the electronic age making access to the written word so easy; just a cut and paste from your favorite website and you're an author. Wrong! Using someone else's words, ideas, and thought processes is unethical and unscholarly behavior. There are painful university procedures that can be brought to bear if plagiarism is suspected, so just don't do it. Use your own words and thoughts! Find your own voice! If someone else has said exactly the right words, directly quote them in your text rather than plagiarize their writing, but be sure that your thoughts are primary in your work. It is difficult for many students to understand when paraphrasing results in plagiarism. Excessive use of paraphrasing often results in what is known as "accidental plagiarism". If you are in doubt as to if your writing could be considered plagiarism, please come and see me for clarification, or look at the following websites for examples and clarification:

<http://www.northwestern.edu/uacc/plagiar.html>

http://www.depts.drew.edu/composition/Avoiding_Plagiarism.htm

Accommodations: All university instructors are required to make reasonable accommodations for physical and/or learning disabilities that could inhibit student academic success. The Disability Resource Center certifies the need for and specifies the particular type of such accommodations on a student-by-student basis. I will request this certification from any student requesting such an accommodation. Staff of the Center can also answer questions and provide guidance and assistance. (Contact Mr. Jake Karnes, 257-2754).

I reserve the right to amend this syllabus as required with ample input and notification to the class. Changes will be communicated verbally and or in writing when required.

<i>Class</i>	<i>Speaker</i>	<i>General Lecture Topics</i>	<i>Student Activities</i>
	Dr. Brion gbrion@engr.uky.edu	Chapters 1 & 19 Overview Give out Ethic paper assignment	
	Dr. Brion	Chapters 2 & 16 Tools	Hand in Ethics paper
	Dr. Brion	Chapters 2 & 16 Tools	
	Dr. Brion	Finish Chapters 2 & 16 Tools Do example problems in class Give out Risk problems	
	Dr. Brion	Chapter 4 Places of Exposure	Hand in Risk Problems
	Dr. Brion Students:	Chapter 4 Places of Exposure	Student Presentations (arsenic and cadmium)
	Dr. Brion Students :	Chapter 4 Places of Exposure	Student Presentations (lead and chromium)
	Dr. Brion	Chapters 5,6,7,&8 Pathways	
	Dr. Brion Students	Chapters 5,6,7,&8 Pathways	Student Presentations (mercury, benzene)
	Dr. Brion Students:	Chapters 5,6,7,&8 Pathways	Student Presentations (chloroform, vinyl chloride, TCE)
	Dr. Brion	Chapters 5,6,7,&8 Pathways	
	Dr. Brion	Finish Chapters 5,6,7,&8 Pathways Give out Environmental Justice paper	
	Dr. Brion Students:	Discuss Environmental Justice findings.	Student Presentations (DDT, PCBs)
	Dr. Brion	Special Lecture on Vector Borne Disease and Global Warming	Hand in Environmental Justice paper
	Dr. Brion	Chapters 13 & 14 Law and Standards Give out Malaria paper	
	Dr. Brion	Chapters 13&14 Law and Standards	Hand in Malaria paper
	Guest lecturer*	Give out Final Exam Questions	
		Final Exam Period	Turn in Final Exam

* = To be determined

2001 CERCLA Priority List Hazardous Substances

2001 RANK	SUBSTANCE NAME	TOTAL POINTS	1999 RANK	CAS No.
1	ARSENIC	1653.61	1	007440-38-2
2	LEAD	1528.01	2	007439-92-1
3	MERCURY	1503.32	3	007439-97-6
4	VINYL CHLORIDE	1388.65	4	000075-01-4
5	POLYCHLORINATED BIPHENYLS	1364.35	6	001336-36-3
6	BENZENE	1356.41	5	000071-43-2
7	CADMIUM	1319.78	7	007440-43-9
8	BENZO(A)PYRENE	1303.14	8	000050-32-8
9	POLYCYCLIC AROMATIC HYDROCARBONS	1300.73	9	130498-29-2
10	BENZO(B)FLUORANTHENE	1271.94	10	000205-99-2
11	CHLOROFORM	1234.42	11	000067-66-3
12	DDT, P,P'-	1190.24	12	000050-29-3
13	AROCLOR 1254	1178.24	14	011097-69-1
14	AROCLOR 1260	1175.08	13	011096-82-5
15	TRICHLOROETHYLENE	1160.49	15	000079-01-6
16	DIBENZO(A,H)ANTHRACENE	1159.41	17	000053-70-3
17	DIELDRIN	1148.51	18	000060-57-1
18	CHROMIUM, HEXAVALENT	1147.80	16	018540-29-9
19	CHLORDANE	1131.11	22	000057-74-9
20	HEXACHLOROBUTADIENE	1130.07	19	000087-68-3

Presentation Evaluation Sheet for (Name of Presenter): _____

Category	Checklist	Point Summary
Visual Aids	<ul style="list-style-type: none"> ■ Appropriate number-2 ■ Readable-2 ■ 1 Topic per slide-2 ■ Amount of detail on slide-2 ■ Figure titles-1 ■ Professional look-1 	Out of 10 possible
Organization	<ul style="list-style-type: none"> ■ Title-1 ■ Outline-2 ■ Logical sequence-5 ■ Complete Summary-2 	Out of 10 possible
Technical Content Of Slide	<ul style="list-style-type: none"> ■ Sufficient technical detail to provide seminar at advanced level without lapsing into unintelligible techno-jargon or tables filled with obscure numbers. 	Out of 25 possible
Oral Delivery	<ul style="list-style-type: none"> ■ Proper speed-2 ■ Answers questions-3 ■ Audience contact-3 ■ Voice level-2 	Out of 10 possible
Effective Use of Time	<ul style="list-style-type: none"> ■ Rate consistent-2 ■ Effective duration-3 ■ Time for questions-5 	Out of 10 possible
Educational Value	<ul style="list-style-type: none"> ■ Breadth of knowledge demonstrated-7 ■ Depth of knowledge demonstrated-7 ■ Was this presentation of value to you?- 11 	Out of 25 possible
Overall Score	<ul style="list-style-type: none"> ■ What overall grade would you assign? 	Out of 10 possible