

College of Public Health & Health Professions
PHC 6702

Exposure Measurement and Analysis

Spring 2014, 3 Credit Hours

Mondays 7th (1:55 – 2:45 PM) & Wednesdays 7th and 8th (1:55 – 3:50 PM),
HPNP Building Room G-111

Instructor Information

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Office hours arranged

Course Description

Exposure to chemical, physical and biological agents occurs through inhalation, ingestion, or contact with a variety of media. This 3 semester-hour class provides public health students an understanding of exposure science in some depth. Methods to measure, estimate and prevent exposure to hazardous agents in the context of public health practice are explored in this course. Understanding information without the ability to apply it does not constitute real knowledge; this course emphasizes the use and application of the course material through problems and exercises. Class PHC 6313 is a prerequisite for this course.

Course Objectives and/or Goals

After completing this course, students should be able to:

- Understand the role of exposure science in public health practice
- Develop exposure assessment strategies for health risk assessment
- Develop exposure assessment strategies for epidemiological studies
- Critically evaluate the scientific literature on exposure science
- Select and apply the appropriate techniques to measure or estimate exposure
- Understand the limitations of exposure data collection techniques

Present the results of your exposure estimates effectively, in written and oral form

Course Materials

Required text: Essentials of Environmental Health (Essential Public Health), Second Edition, by R. H. Friis. Jones and Bartlett Learning, LLC, 2012, ISBN-13: 978-0-7637-7890-3 (pbk.)

Suggested other text: Exposure Analysis (EA), by W. Ott, A. Steinemann, L. Wallace. CRC Taylor & Francis, 2007, ISBN: 1-56670-663-7

Other course materials will include current literature dealing with waterborne infectious diseases and preventative measures

Course Requirements/Evaluation/Grading

Students will be evaluated by their class participation (20%), homework (10%), quizzes (10%), midterm examination (20%), final examination (20%), and a 15-20 page term paper on a topic related to the course and approved by the instructor (20%) due by August 5. To earn a B for class participation, students should fully participate and attend every session. To earn an A in classroom participation, students must attend each session and demonstrate that they prepared for lectures beforehand (through reading assigned text and interacting with the lecturers).

Term Paper

A 15-20 pages paper (double spaced) on a specific topic of interest to the student is due at the end of the course. The paper must be a formal review of scientific literature related to the course. Students are strongly advised to select a topic whose knowledge is of use to their academic or professional goals (e.g. internship). The topic title is due at least one month in advance and a list of references and an outline are due approximately two weeks later (see due dates below). Earlier requests for feedback are encouraged. The paper must be submitted through Turnitin®.

Percentage or points earned in class	93%-100%	90%-92%	87%-89%	83%-86%	80%-82%	77%-79%	73%-76%	70%-72%	67%-69%	63%-66%	60%-62%	Below 60%
Letter Grade equivalent	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:

<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

Outline of topics:

Class No.	Lecture Title	Day 2014	Readings, Friis textbook	Readings, Ott textbook
1	Introduction	Jan. 6		
2	Basic Concepts in Exposure Science -1	Jan. 8		
3	The Environment at Risk	Jan. 13	Chap.1 & 2	
4	Environmental Epidemiology	Jan. 15	Chapter 3	Chap. 1 -2
5	Holiday (Martin Luther King Day)	Jan. 20	No classes	
6	Variability and Uncertainty in exposure assessment	Jan. 22		Chap. 7 - 8
7	Environmental Toxicology	Jan. 27	Chapter 4	
8	Environmental Policy and Regulation	Jan. 29	Chapter 5	
9	Toxic Metals and Elements	Feb. 3	Chapter 6	
10	Pesticides and related chemicals	Feb. 5	Chapter 7	
11	Design of Exposure Studies	Feb. 10		Chapter 3
12	Direct and Indirect Methods	Feb. 12		Chap. 5 & 17
13	Mathematical Modeling of Exposure	Feb. 17		Chapter 19
14	Mathematical Modeling, - Part 2	Feb. 19		Chapter 18
15	Intake Fractions and Review for Exam	Feb. 24		Chapter 10
16	Midterm Exam	Feb. 26		
17	Spring break	Mar. 1 - 8	No classes	
18	Exposure to Physical Agents	Mar. 10		
19	Ionizing and Nonionizing Radiation	Mar. 12	Chapter 8	
20	Water Quality	Mar. 17	Chapter 9	Term paper title due date
21	Inhalation Exposure	Mar. 19		Chap. 4 & 6
22	Inhalation Exposure – Part 2	Mar. 24		Chapter 8
23	Air Quality	Mar. 26	Chapter 10	
24	Exposure to Dust; Dermal Exposure	Mar. 31		Chap. 11, 12, & 14
25	Food Safety	Apr. 2	Chapter 11	
26	Ingestion Exposure	Apr. 7		Chapter 13
27	Solid and Liquid Wastes	Apr. 9	Chapter 12	Paper outline & references list due
28	Occupational Health	Apr. 14	Chapter 13	Chapter 15
29	Unintentional Injuries	Apr. 16	Chapter 14	
30	Microbial Exposures; Bioweapons	Apr. 21		
31	Contemporary Issues	Apr. 23	Term paper due by 5 PM	
32	Final Exam (multiple choice)	Apr. 28		

Final grades: May 5

Statement of University's Honesty Policy (cheating and use of copyrighted materials)

Each student is bound by the academic honesty guidelines of the University and the student conduct code printed in the Student Guide and on the University website. The Honor Code states: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." Cheating or plagiarism in any form is unacceptable and inexcusable behavior.

Software Use

All faculty, staff and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

Class Policies

Class Attendance: You are expected to attend every class and to be prepared on the readings for that day. Personal issues will be handled on an individual basis.

Make up exams and deadlines: If you anticipate a reason why you cannot be present for the midterm exam, inform the instructor in advance. Homework turned in past the deadline will be accepted and graded, but it will receive reduced credit. Late papers will not be accepted.

Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity (see Student Conduct Code, the Graduate Student Handbook or this website for more details:

www.dso.ufl.edu/judicial/procedures/academicguide.php

Cheating, lying, misrepresentation or plagiarism in any form is unacceptable and inexcusable behavior. Incidents will be reported directly to the Office of Student Judicial Affairs and a formal procedure will be started in each and every case. There will be no informal incident resolution between student and instructor. Should you have any doubts on whether something constitutes plagiarism, consult the many available resources on the topic, or consult the instructor in advance.

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Pledge to hold ourselves and our peers
To the highest standards of honesty and integrity*

Unless specifically indicated, **all assignments are individual**. You may discuss the assignment and exchange tips with your classmates -and are even encouraged to - but under no circumstances should individual assignments be the work of a study group. Breach of this policy will be considered a form of plagiarism and dealt with according to university policy. As a rule of thumb, yours can no longer be considered an individual work, if:

- a) You look at someone else's work, at any time or in any form. OR
- b) You exchange information while both you and a classmate are simultaneously working on the same assignment.

Accommodations for students with disabilities

If you require classroom accommodations because of a disability, you must first register with the Dean of Students Office (<http://oss.ufl.edu/>). The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information:

<http://www.counsel.ufl.edu/>

OR

<http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out their web site at www.health.ufl.edu/shcc

Crisis intervention is always available 24/7 from:
Alachua County Crisis Center: 352-264-6789

BUT do not wait until you reach a crisis to come in and talk with them. They have helped many students through stressful situations impacting their academic performance. You are not alone, so do not be afraid to ask for assistance.

Expected Class Demeanor

Students are expected to maintain a civil tone and respect the opinions of others during class discussions and oral quizzes. While commenting on others' statements is encouraged, aggressive or patronizing language is unacceptable. Please silence any electronic devices; if you really must respond to a call or text message, quietly excuse yourself out of the classroom.