

University of Florida
College of Public Health & Health Professions Syllabus
PHC 6937: Environmental Epidemiology (3 credit hours)
 Fall: 2021
 Delivery Format: Hybrid in-class and e-learning in canvas

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 Office Hours: TBD
 Office Location: TBD

Teaching Assistants: TBD
 Email Address:

Preferred Course Communications: The “Inbox” in Canvas will be used for all email correspondence. Instructors and TAs will not be responsible for emails sent their “UFL” email addresses.

Prerequisites: PHC 6001 Principles of Epidemiology in Public Health or equivalent

PURPOSE AND OUTCOME

Course Overview

Students will gain an understanding of epidemiologic methods specific to Environmental Health. This course emphasizes skills relevant to environmental epidemiology, including evaluating literature, creating a study design, and performing an environmental epidemiological analysis for environmental hazards. Students will gain foundational knowledge in environmental epidemiology in order to build these skills.

Course Objectives and/or Goals

Upon completion of this course, students will be able to:

1. Differentiate and describe the major study designs in environmental epidemiology
2. Recognize appropriate exposure assessment methods for different environmental epidemiology research scenarios
3. Implement a systematic review that summarizes and critiques the existing epidemiologic literature for a given environmental or occupational health issue
4. Collaboratively plan an environmental epidemiology study that focuses on a given environmental or occupational health issue
5. Recognize appropriate data analysis methods for different environmental epidemiology research questions and study designs

Relation to Program and Learning Outcomes

Competencies primarily gained in this course

1. Monitor health status to identify and solve community health problems
2. Diagnose and investigate health problems and health hazards in the community using an ecological framework
3. Inform, educate, and empower people about health issues
4. Communicate effectively with constituencies in oral and written forms

Competencies reinforced in this course

1. Evaluate the direct and indirect human effects of major environmental agents
2. Assess genetic, physiological and psychosocial factors that affect human susceptibility to adverse health outcomes following environmental exposure(s)
3. Develop testable hypotheses and models to evaluate biological and chemical environmental exposures

4. Demonstrate expected professional behavior, cultural sensitivity, teamwork and appropriate communication when criticizing or defending scientific research

Instructional Methods

1. Lectures: are for general orientation. Students are responsible for all the material presented in the course and assigned readings. This will be the main source of content in this course. Since this is a Hybrid course, lectures are available in a synchronous in-class environment as well as an asynchronous or synchronous online environment.
2. Readings and Resources: In addition to the required text, we will post supplementary readings and resources in the course. The reading list may be supplemented during the course.
3. Assessments: We will use a variety of assessments in this course, including but not limited to projects that involve written and oral presentation formats.

What is expected of you?

You are expected to view all lectures (either live in-person or recorded online) and complete all readings and assignments. Additionally, you are expected to actively engage in the course throughout the semester. Your participation fosters a rich course experience for you and your peers that facilitate overall mastery of the course objectives.

DESCRIPTION OF COURSE CONTENT

This course is structured into two broad themes, including (1) the foundations of environmental epidemiology research and (2) application of environmental epidemiology to specific environmental hazards. Each theme is taught as a series of modules that builds on top of one another to enable an emphasis on developing skills in environmental epidemiology. Each module may contain lectures, external links, videos, discussions and required readings as well as assignments. You are responsible for all course content regardless of the format. Each week covers one (1) module. The topical Outline/Course Schedule below details the dates of content modules and assignments. Presentations are also listed.

Getting Started

1. Visit <http://lss.at.ufl.edu> and login to e-Learning in Canvas using your Gatorlink ID and password.
2. Find our course website. It will be listed as PHC6937: Environmental Epidemiology, Fall 2021.

Required Course Materials and Technology

Text book (required):

Environmental Epidemiology: Principles and methods, 1st edition

Ray M. Merrill, Jones & Bartlett Publishers, 2008, ISBN: 9780763741525

Required Hardware:

Webcam and Microphone. May use laptop built in webcams, but must be able to move camera during use (see exams). A headset microphone is required for any live sessions/debates. Additional technical requirements are outlined at <http://publichealth.phhp.ufl.edu/tech/>.

e-Learning in Canvas site:

There will be an online site for this course in Canvas, the learning management system supported by the University. Log in at <https://lss.at.ufl.edu/> and go to course site for PHC6937: Environmental Epidemiology, Fall 2021. Here, I will post the syllabus, lecture presentations, assignments and allow for discussions/chats amongst the students and course leaders. You will also turn in assignments through this site. Once the course begins, all communication will take place during class time or through the e-Learning in Canvas site. All course-related emails should be performed using Canvas. This will eliminate any issues with students not getting emails due to connection problems. It will be your responsibility to check the site on a routine basis to keep up with announcements, emails, and course modifications.

For technical support related to course materials and links, please contact me and the online course coordinator (Truly Hardemon).

For technical support for this e-Learning in Canvas, please contact the UF Help Desk at:

- Available 24 hours a day, 7 days a week
- (352) 392-HELP - select option 2
- helpdesk@ufl.edu (email)
- helpdesk.ufl.edu (website)

ACADEMIC REQUIREMENTS AND GRADING

General information

Assignments are to be turned in as a Word document or PowerPoint file as directed, unless otherwise indicated. They will be returned to you with comments. If you have unexpected issues with Canvas, you may email the assignment to the course TA or professor directly. Assignments are normally intended as individual projects unless otherwise directed. Shared work may be treated as a form of plagiarism. Assignments may be required to be submitted via Turnitin in this course (this will be done automatically in the Canvas Assignment upload). This tool will pick up any passages in students' work that come from another source (e.g., websites or other students). Be sure to adequately cite your sources/references for these assignments to avoid plagiarism (see format below). **Do your best to write content from outside sources into your own words and also cite the source.**

The Canvas assignment tool will notify you confirming the submission of your assignment. PLEASE check your UFL email at <http://webmail.ufl.edu> on a regular basis for these and other email notices from the course site. If you do not receive an email confirmation within 2 hours of submission, please return to the site and resubmit your assignment. It is a student's responsibility to verify that they turn in assignments on time and that they turn in the correct assignment attachment and in the correct file format. Please take a few moments to open your submitted attachment and verify that you have submitted the correct file.

You will be graded in the course through the use of 4 different learning assessments which are as follows:

1. **Study Design Assignment (250 points total).** Each student will complete one study design assignment during the semester. You will be assigned to a group that is also assigned a specific environmental or occupational health issue. Your group study design must address the assigned issue. There will be 3-4 students per group. Each team will upload **one** Powerpoint presentation of no more than 10 slides that summarizes their assigned environmental or occupational health issue and describes their study design in detail. Each group will be required to follow the specific format described in the study design instructions (provided as a separate document on Canvas assignment page). Each presentation will also be recorded and uploaded in video format to Canvas where the rest of the class will be able to view the presentations.

Description of group presentation: You and your team will be graded on your knowledge, presentation of the environmental or occupational health issue and your study design, and review of the literature supporting your approach. The structure and points to cover will be explained in more detail on Canvas. The presentation will be given in a PowerPoint format and a recording of the presentation will be uploaded for the class to see. Each group will upload one joint PowerPoint presentation file. An annotated bibliography is required as part of the submission in order to demonstrate the group's review of the supporting literature.

2. **Review of Environmental Epidemiology Study (150 points total).** Each student will present on and write about an environmental epidemiology study. Early on in the course, you will perform a search to identify an environmental epidemiology study. After selecting a study, you must send the abstract of the study (with a link) to your instructor in order to get clearance for presenting on that particular study (first come first serve). The study must come from the peer reviewed scientific literature. The due date for this assignment is provided in the schedule below.

You are to prepare 1 Powerpoint slide and record a 4-5 minute presentation that describes the recent study (50 points). The slide can be visual – with pictures, embedded video links, etc. The video recording should be made using Zoom, with the Sharescreen option selected so that viewers can see the Powerpoint slide in the recording. The Zoom recording will need to be uploaded to the Canvas assignment page. The course instructor will post the Zoom recording for students in the discussion board. An example presentation made by the instructor will be posted on Canvas.

- a. Your presentation should describe the study in brief including the following components:
 - i. Study design features

- ii. Type of data analysis
- iii. Findings
- iv. Public health implications
- v. Conclusion

- 3. Discussion on Study Reviews (50 points total).** Each student is required to contribute to discussion posts related to students' presentations on a recent environmental epidemiology study. Each student in the class will be required to make one (1) original discussion post (25 points) and one (1) reply to another student's discussion post or instructor's discussion post (25 points).

Original Discussion Posts Should Contain the Following:

- a. Significant contribution to the discussion with additional reference (e.g. article, internet)
- b. personal perspective on the study design
- c. Any constructive criticism of the group's presentation

Reply Posts Should Contain the Following:

- a. Discussion of your thoughts on the original post, you may include whether you agree or disagree with the post.
- b. Suggestions on how to further improve the original posters suggestions or an alternative viewpoint.

We will utilize video discussions in this course. To accomplish this we will use Canvas' built-in video recording platform that allows you to record video/audio posts. Discussions posts (both original and replies) should be 2-3 minutes in length.

The original discussion posts need to be posted by the Wednesday following the presentations, and replies need to be posted by the Friday for that week's discussions. For example, if video presentations are posted on a Friday, the original post needs to be made by the following Wednesday and the replies need to be posted by the following Friday.

- 4. In-Depth Study Critique (150 points total).** This individual assignment involves taking an journal article and writing an in-depth critique of the paper. The journal article can be the same one that you used for the Review of Environmental Epidemiology Study presentation assignment. Your written critique will require you to give your interpretation of the paper as well as to summarize the paper using the STROBE checklist of items for critiquing observational studies.
https://www.strobe-statement.org/fileadmin/Strobe/uploads/checklists/STROBE_checklist_v4_combined.pdf.

- 5. Written Exercises (200 points total; 100 points each).** A total of two (2) individual written exercises are due at times specified in the course schedule. These written exercises comprise a series of short answer questions that draw on key concepts and require the student to apply their new knowledge gained. Some questions require calculations to be performed by the student in order to answer the short answer question. Each assignment represents the student's understanding of each broad theme of the course.

- 6. Environmental Epidemiology Analysis Presentations (200 points total).** For this assignment students are required to work in a group. Each group will use either the Florida Environmental Public Health Tracking database or the National Environmental Public Health Tracking Network database to devise a study hypothesis and conduct an environmental epidemiology analysis. Alternate environmental health or occupational health databases may be used with instructor permission. The analysis topic must be selected by the group and may overlap with the study design assignment. Once the group has selected their topic they must submit an abstract proposal to the instructor to gain approval of the analysis (worth 25 points of your grade on this assignment).

Grading

Requirement	Points	% of total
Study Design Assignment	250	25
Review of Recent Environmental Epidemiology Study	150	15
Study Review Discussion	50	5
In-Depth Study Critique	150	15
Written Exercises (2 @100 points each)	200	20
Environmental Epidemiology Analysis Presentations	200	20
Total	1000	100

Total Points Earned	≥930	900-929.9	870-899.9	830-869.9	800-829.9	770-799.9	730-769.9	700-729.9	670-699.9	630-669.9	600-629.9	<600
% Points earned	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	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Please be aware that a C- is not an acceptable grade for graduate students. In addition, a grade of C counts toward a graduate degree only if an equal number of credits in courses numbered 5000 or higher have been earned with an A.

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://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Late Assignments and Make Up Work

Assignments turned in up to 24 hours late will be discounted **10%** of the grade that they would otherwise receive. Assignments turned in more than 24 hours late will **not** be graded and will contribute zero points toward your final grade, unless arrangements have been made in advance with the instructor. Missed assignments will contribute zero points toward your final grade.

Special Circumstances. In the event of exceptional situations that may interfere with your ability to perform an assignment or meet a deadline, contact the instructor as soon in advance of the deadline as possible. Such special cases will be dealt on an individual basis, provided that you have sufficient documentation.

Please note: Any requests for make-ups due to technical issues **MUST** be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You **MUST** e-mail me within 24 hours of the technical difficulty if you wish to request a make-up.

Topical Outline/Course Schedule

Modules	Week / Dates	Topic(s) and Speaker(s)	Required Reading(s)	Assignment Due
Getting Started	Week 1	Syllabus Academic Integrity	Syllabus	
Theme 1: Foundations of Environmental Epidemiology Research				
1	Week 1	Introduction to Environmental Epidemiology	Chapter 1	
2	Week 2	Essentials of Environmental Epidemiology; Exposure and Outcome Assessment	Chapter 2	Select Epidemiology Study to Review
3	Week 3	Causal Inference and Literature Review in Environmental Epidemiology	Chapter 3	
4	Week 4	Research Study Designs	Chapter 4	Presentations on Review of Recent Epidemiology Studies
5	Week 5	Disease Clusters	Chapter 5	Discussion Posts Due
6	Week 6	Dose-Response Relationship in Environmental Epidemiology	Chapter 6	Written Exercise #1
7	Week 7	Mapping and GIS	Chapter 7	In-depth Study Critique Due
8	Week 8	Time Trends	Chapter 8	
Theme 2: Application to Environmental Hazards				
10	Week 10	Monitoring Environmental Health & Utilizing Surveillance Databases	Chapter 9	Written Exercise #2
11	Week 11	Indoor and Ambient Air Quality	Chapter 10	
12	Week 12	Soil & Food Contaminants	Chapter 11	
13	Week 13	Water Quality & Infectious Disease	Chapter 12	Abstract Proposal for Epidemiology Analysis
14	Week 14			Study Design: Group Presentations
15	Week 15	Climate Change	Chapter 14	
	Week 16			Environmental Epidemiology Analysis Presentations
	Week 17	Finals Week		

Policy Related to Required Class Attendance

All faculty are bound by the UF policy for excused absences. For information regarding the UF Attendance Policy see the Registrar website for additional details: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

You are expected to maintain a civil tone and respect the opinions of other posters. While commenting on others' posts is encouraged, aggressive or patronizing tone and language are unacceptable and may result in the loss of your posting and discussion privileges.

Communication Guidelines

You are encouraged to contact by email using the "Inbox" in Canvas for clarification and assistance with the course material and the assignments, and for special issues that may arise. Weekday daytime (US Eastern Time) emails have the best chances of being answered quickly. Please only use the Canvas "Inbox" to communicate with the course instructor and/or TA. While the instructors and TAs will check their UFL email regularly, they will not be held responsible for email sent directly to their UFL addresses.

Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

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

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

"On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

<http://www.graduateschool.ufl.edu/about-us/>

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

Plagiarism is especially damaging in an online learning environment and will be dealt with in an official way, according to University of Florida regulations. 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, please consult the many available resources on the topic, e.g. starting with <http://web.uflib.ufl.edu/msl/subjects/Physics/StudentPlagiarism.html>, or contact the instructor in advance. There is also a reference posted in the course site, in the Course Help link. As you submit assignments, you will have the opportunity to check it for unintentional plagiarism using Turnitin®, the same software that instructors will use to check your work. You are encouraged to take advantage of this option. If you turn in assignments that are plagiarized, you will receive zero points for that assignment.

You are expected to turn in original work in this course. This means that when answering assignment questions, writing papers, posting discussions, etc you will be expected to write your responses in your own words. You **MAY NOT** copy answers word for word from any course materials or outside sources. On occasion it may be useful to provide a quote from course materials or outside sources in which case you must properly cite the source and place the quote in quotation marks. That being said we urge you to avoid excessive quotation as it does little to demonstrate your understanding of course material.

Online Faculty Course Evaluation Process

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

SUPPORT SERVICES

Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, you must register with the Dean of Students Office <http://www.dso.ufl.edu> within the first week of class. The Dean of Students Office will provide documentation of accommodations to you, which you then give to me as the instructor of the course to receive accommodations. Please make sure you provide this letter to me by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- 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. 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 the web site at: <https://shcc.ufl.edu/>
- Crisis intervention is always available 24/7 from:
Alachua County Crisis Center
(352) 264-6789
<http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

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