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PUBH 3136A - Principles of Environmental Health

R. Christopher Rustin

Georgia Southern University, Jiann-Ping Hsu College of Public Health, rrustin@georgiasouthern.edu

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Georgia Southern University
Jiann-Ping Hsu College of Public Health

PUBH 3136A: Principles of Environmental Health
Fall 2016

Instructor: R. Christopher Rustin, DrPH, MS, REHS
Office: Hendricks Hall, Room 2036
Phone: 912-478-2414
E-Mail Address: rrustin@georgiasouthern.edu
(expect responses within 48 hr; **not** available after 6 pm on Friday and on weekends)
Office Hours: TR 11:00 AM – 12:00 PM, 1:15 PM-2:45 PM
Also by appointment (email at the above address for scheduling)
Class Meeting: TR, 9.30-10.45 AM (Info Technology Bldg., Room 3216)
Web Page: <https://georgiasouthern.desire2learn.com/d2l/e/content/309793/Home>

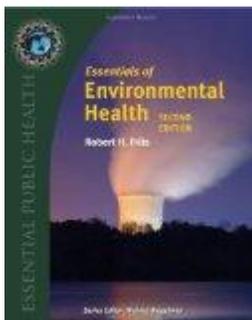
Course Catalog available at:
<http://em.georgiasouthern.edu/registrar/resources/catalogs/>
under Jiann-Ping Hsu College of Public Health Programs

Prerequisite(s): PUBH 2131

Course Description:

This course is designed to provide students with an introduction to and overview of the key areas of environmental health. Using the perspectives of the population and community, the course will cover factors associated with the occurrence of environmental health problems. Students will gain an understanding of the interaction of individuals and communities with the environment, the potential impact on health of environmental agents, and specific applications of concepts of environmental health. The course will consist of a series of lectures case studies, and activities designed to cover principles of the environmental health discipline core. The major topics cover background material and “tools of the trade” (environmental epidemiology, environmental toxicology, and environmental policy and regulation). The course also discusses specific agents causing various pathologic conditions in humans and ecosystems. Finally, applications of environmental health principles to evaluate and maintain water and air quality, food safety and waste disposal, as well as approaches to monitoring occupational health and prevention of injuries are discussed.

Textbook:



Required Textbook:
Robert H. Friis, *Essentials of Environmental Health*,
Second Edition,
Jones & Bartlett Learning, 2012 ISBN: 0763778907

BSPH Core Student Learning Outcomes (CORE):

1. Demonstrate proficiency and effectiveness in the communication of core public health principles and practices, both oral and written.
2. Demonstrate proficiency in the integration of the core public health disciplines (Biostatistics, Epidemiology, Environmental Health, Health Policy/Management, and Social/Behavioral Science) in practice and research.
3. Demonstrate proficiency in problem solving, critical thinking, and public health leadership.

BSPH Competencies:

1. Identify and assess public health problems to develop appropriate public health education programs based on sound theoretical foundations of health behavior
2. Design, implement and evaluate public health educational programs for identified health problems for at-risk populations and communities.
3. Demonstrate argumentation, analysis, and synthesis skills writing through the development of comprehensive health promotion program plans and materials.
4. Communicate and advocate for health and health education.

PUBH 3136 Performance-Based Learning Objectives Linked to Course Activities

(Note: Activities Described in Next Section):

1. Students will demonstrate competence in the basic terminology and definitions of environmental health (*Activity 1*).
2. Students will demonstrate competence explaining the fundamental concepts of environmental health including environmental epidemiology and environmental toxicology, and their broad policies, practices, and application. (*Activity 1 and 2 and 3*).
3. Students will demonstrate competence in examining the effects of environmental pollution affecting different populations, analyzing environmental health treatment and prevention strategies and community health outcomes (*Activity 2 and 3 and 5*).
4. Students will demonstrate the ability to communicate environmental health concepts and associated issues through writing for lay audiences. (*Activity 4*).
5. Students will demonstrate the ability to communicate environmental health concepts and associated issues through writing for professional audiences. (*Activity 5*).
6. Students will demonstrate the ability to communicate environmental health concepts and associated issues through presentations to lay and professional audiences. (*Activity 6*).

Assessment of Student Learning

Activity 1: Use course lectures and class discussions to explain the basic terminology and definitions of environmental health, including but not limited to environmental epidemiology, environmental toxicology, health hazard, dose-response, exposure, risk assessment, environmental agents, zoonoses, ionizing and nonionizing radiation, criteria air pollutants, food-borne pathogens, and occupational health. Competence in basic terminology will be evaluated using two activities: (1) six 10-minute quizzes and (2) three equally weighted exams, (3) Final exam.

Activity 2: Use course lectures, class discussions and case studies to explain basic concepts of environmental health, effects of various environmental hazards on human health, the interaction of individuals and communities with the environment, and existing policies and practices to prevent and control negative health effects of the environment on different communities including occupational settings. Competence in the ability to understand and apply basic concepts of environmental health and environmental policy and management principles will be evaluated using two activities: (1) six 10-minute quizzes and (2) three equally weighted exams, (3) Final exam

Activity 3: Use course lectures, class discussions, and case studies to explain basic applications of environmental health principles and concepts, and their utilization in the context of contemporary environmental health treatment and prevention strategies. Competence in the ability to analyze basic principles and concepts of environmental health and their integration with treatment and prevention strategies will be demonstrated through (1) the analysis of environmental health peer reviewed articles and (2) a Current Event presentation.

Activity 4: Competence in written communications for lay audiences will be evaluated using (1) A factsheet on a selected environmental health issue and (2) a report on current events.

Activity 5: Competence in written communication for a professional audience will be evaluated using a single comprehensive review of a selected environmental health peer reviewed article.

Activity 6: Competence in oral presentation will be evaluated using the preparation and delivery of (1) a PowerPoint presentation of a selected environmental health problem (Environmental Health Issue Presentation), and (2) a Current Event presentation.

Instructional Methods:

Dr. Rustin serves as the instructor of record. Guest lectures will be given by other Public Health faculty. All course material will be posted on Folio. **Students are responsible for downloading the lecture slides and reading materials from Folio.**

Information will be presented in the classroom, through the required readings, and through written and oral exercises. Class meetings will be a combination of lecture, class discussion, and group activities. The instructor will present and discuss the topics related to the assigned readings; **however, if any particular section of the reading assignment is not covered during the lecture and class discussion, you are**

responsible for knowing the material. Furthermore, students are responsible for **ALL supplementary information** discussed during the scheduled class periods. Students are encouraged to ask questions at the end of the lecture to address various aspects of the topic discussed that may be unclear to them.

Grading:

	Topics covered	Points
Quiz 1	Chapters 1, 2	5
Quiz 2	Chapters 3	5
Quiz 3	Chapters 4, 5	5
Quiz 4	Chapters 6, 7	5
Quiz 5	Chapters 8-9	5
Quiz 6	Chapters 10	5
Exam 1	Chapters 1-4	100
Exam 2	Chapters 5-8	100
Exam 3	Chapters 9-14	100
Final Exam	Comprehensive	80
Article review	Groups of four will select the article	20
Discussion 1	Chapter 2	3
Discussion 2	Chapter 3	3
Discussion 3	Chapter 4	3
Discussion 4	Chapter 10	3
Discussion 5	Chapter 13	3
EH Brief paper	Groups of four will select a topic and create a factsheet	25
Presentation	Groups will present the brief paper topic on powerpoint	20
Current events	Each student will present	10
Total		500

<i>Point Scale</i>	<i>Percent</i>	<i>Grade</i>
450 - 500 pts.	90 - 100%	A
400 - 449 pts.	80 – 89.9%	B
350 - 399 pts.	70 – 79.9%	C
300 - 349 pts.	60 – 69.9%	D
0 - 299 pts.	00 – 59.9%	F

All points listed above will be added to calculate your final grade. All grades are final; no assignments will be re-graded. Grading on a curve will not be used.

PLEASE NOTE: It is at the Instructor’s discretion to round-up your final grade. The policy is as follows: If you have more than 3 unexcused absences OR do not actively participate in class discussions/activities **YOUR GRADE WILL NOT BE ROUNDED UP**. For example, if you accumulated 79.0-79.9% of total points and you had **MORE THAN 3** unexcused absences **OR did not actively participate in class discussion/activities**, your final grade in this class will be “C”.

*****ATTENDANCE WILL BE TAKEN DURING EVERY CLASS MEETING*****

Assignments and Activities:

1. Exams (300 points total).

There will be three exams, each worth 100 points. Exams may be any combination of true/false, multiple choice, matching, short answer problem, calculations & discussion. Exams will be online and available on Folio. Exams will be due **5:00 pm** on the specified day. Class will not be held on Exam days.

2. Final Exam (80 points total).

The final exam will be administered on Tuesday, **December 6th, 2016 from 10 am-12 pm**. **You will be notified if the time is changed**. This exam will be cumulative. The test may be any combination of true/false, multiple choice, matching short answer, problem calculations & discussion. No early/late finals will be given. Finals not taken during this university mandated time will be given a “0”. **If this time conflicts with your schedule, please consider dropping this course.**

3. Quizzes (30 points total).

Six quizzes will be given over the course of the semester. These quizzes will account for 5 points each. Quizzes will be online in Folio, can only be taken one time and due dates are given in Table 2.

4. Environmental Health Issue-Fact Sheet (25 points total).

This is a group assignment and students will select their group of 4 students at the beginning of the semester. This assignment is due in Folio **11/14/16, 10:00 PM**. Students will work as a team to identify environmental health issues which impact their daily lives (living area, on

campus, in the community etc.). The environmental health issues will vary from environmental health hazards, prevention strategies, maintenance, sustainability, policy need or implementation. Students will select and describe the EH issue by developing a fact sheet/brochure. Students are expected to complete and submit peer-evaluation noting what each person in the group contributed and each group member will grade each other; these evaluation forms are to be submitted into a Folio Dropbox.

Other specific instructions, grading rubrics and evaluation form will be posted in Folio.

5. Environmental Health Issue Presentation (20 points).

The same groups will also present their research in front of their peers in the form of Powerpoint at the end of the course. The presentations dates are given in the "Course Schedule" table at the end of the syllabus. Presentation guidelines and rubric is posted on Folio and a copy of the presentation is due in Folio **11/14/2016, 10:00 PM**. Presentation cannot exceed 15 minutes.

6. Article Review (20 points).

The article critique is a group assignment. Each group of 4 students will select one peer-reviewed (*this is not Wikipedia*) environmental health article during the semester. Each group will review the article and critically analyze the material based on a list of questions provided by the professor. **Points will be deducted if the answers do not meet the minimum length requirement.** Refer to FOLIO for the guidelines and detailed instructions. This assignment is due **10/14/16, 5:00 pm**.

7. Current Event Presentation (10 points).

Each student will sign up early in the semester and present to the class a short summary of a current event(s) highlighting an environmental health issue discussed in the media or of a local concern. This presentation will occur in the first 10-15 min of every class period (excluding test and exam days). The student will need to identify an environmental health or ecological issue that is currently occurring in the world, country, county or town. Ideally, the topic of the presentation should relate to the chapters that will be discussed at the time. The student will need to present this information and link it to environmental health. This connection should be made through a thought provoking **discussion question** that the student has prepared for the class. Each student will have 3 min for the presentation and 2 min for questions. Description of the current event in the form of the original newspaper article, internet link, or broadcasting video should be submitted to the designated Drop Box in Folio by 10:00 pm the day before the presentation. The student **MUST PRESENT** the current event to the class in order to receive the points. **The topics highlighted during these current event presentations and discussions maybe included in the exams.**

Current Event Presentation Guidelines:

Please use the following points to guide your in-class discussion on the Current Environmental Health (EH) Event.

1. Brief description of the EH event
2. Explanation of how the issue occurs and the populations that are (or may be) mostly affected by the potential health effects of the issue
3. Importance of the issue in terms of EH

4. Relevance of the issue in the context of Public Health
5. How the issue do (or will) affect you personally, your community/GA/US/World

8. **Online Discussions (15 points).**

There will be a total of five discussions throughout the semester. All discussions will be posted online in Folio.

9. **Class Participation**

Your participation in this class is very important. To demonstrate your participation, you are expected to ask relevant questions, answer questions, and make comments that relate to material in the textbook, discussion topic or share relevant experiences. Your contributions will be very valuable if/when you are responding to something another student says (including answering a question asked by a student) or constructively disagreeing with something in the book or said in class by the Instructor or your classmate. Students are expected to actively participate in class and online discussion of the topics listed on the syllabus, basing their participation on the assigned readings and/or media. To demonstrate your participation, you are expected to ask relevant questions, answer questions, and make comments that relate to material in the textbook, discussion topic or share relevant experiences. Your contributions will be very valuable if/when you are responding to something another student says (including answering a question asked by a student) or constructively disagreeing with something in the book or said in class by the Instructor or your classmate. Be **CONSTRUCTIVE** in your criticism, **RESPECT** others' opinions and respond criticism **PROFFESIONALLY**. The Instructor may call you to participate, but your volunteer participation is preferred. **Participation in class sessions will be used for rounding grades when necessary.**

Attendance:

The door to the classroom will be closed **at 9:35 am** each day. If you arrive after that, you will not be allowed to enter the room. The disturbance to the course is too great. If you disturb the class by knocking on the door and trying to enter the classroom, **10 points will be taken from** your final grade. Do not drop your personal items in the class and then leave the classroom, you will not be allowed to re-enter to retrieve your personal items until after the class is completed at 10:45 am. **Attendance will be taken every day of class** and will count toward your final grade.

You are responsible for any missed content, announcements, due dates, homework assignments, date changes, etc. when you miss a class. Please, notify the Instructor and provide justification if you will be late to the class.

Course Policies:

1. No make-up TEST or QUIZZES are given except for **a university excused absence with full documentation**. If you miss a test, and you have a university excused absence with full documentation, you have one week to make the exam up. All make-up exams will be a combination of essay questions and computations. If it is not made up **within one week**, you will receive "0" points for the exam. **You have 24 hours** after a test is taken by the class to contact the Instructor via email to schedule your make-up exam or a "0" will be assigned to the test.

2. Exams and quizzes are the property of the Instructor, any exams or quizzes removed physically from the classroom or electronically via digital means by the student will result in the score of a “0” for that exam and/ or quiz, and an “F” for the entire course. All exams will be a combination of multiple choice, true/false, fill-in-the-blank, matching short answers, problem calculations and essay questions.
3. The final exam is mandatory and will be proctored during finals week. If you have special needs and require special assistance, please contact Georgia Southern University **If this scheduled time is a problem, please consider dropping this course.**
4. All assignments must be typed and formatted according to the instructions before submission for grading.
5. All assignments must be turned in through Folio (mostly to the designated Dropbox) unless otherwise directed.
Assignments must be submitted in by the designated time. Late assignments (**anything that’s a second past the designated time**) will be given “0” points. Assignments should not be given to the Office secretary, slipped under my office door, left in my mailbox, etc.

Late assignments **are not** accepted. Most assignments will be submitted through Folio (a day and time will be posted). For assignments due in Folio, they are due according to the times posted in Folio. All files submitted must be in .doc or .docx formats. Any other type of submissions will not be opened and receive automatic “0” points. Assignments submitted via email will not be accepted for review and/or grading; respectively, a student submitting his/her assignment via e-mail will receive an automatic “0” points.

6. **Extra Credit.** No individual extra credit is allowed or will be given in this course. Students are expected to utilize their best efforts on all assignments, graded examinations, and intellectual challenges (papers, lab reports, debates, presentations) and so forth. Again, any extra credit opportunities will be presented to the entire class; *however, there is no guarantee that extra credit opportunities will be offered for any particular assignment or graded exam.*
7. Please consult the STUDENT CONDUCT CODE for course policy concerning issues related to academic dishonesty. Anyone caught violating any of these regulations will be immediately reported to GSU's Judicial Board, and be assigned an “F” for the course. **DO NOT PLAGIARIZE, YOU WILL BE CAUGHT!** All written assignments will be checked for plagiarism using “Turnitin” function in Folio, any plagiarism report higher than 25% will have a minimum of 20 points deducted from the assignment. The deductions will increase as the plagiarism percentage increases. Anything above 40% will not be graded and receive a grade of “0”.
8. Please beware of the last day to withdraw from class without academic penalty. Students who stop attending class without officially withdrawing from the class will receive a final grade of "F".

9. Samples of your work may or may not be reproduced for research purposes and/or inclusion in the Instructor's teaching portfolio. You have a right to review anything selected for use, and subsequently ask for its removal.
10. This syllabus, lectures, and all materials distributed and presented by the Instructor during this course are protected by copyright law. You are authorized to take notes in this class, but that authorization extends only to making one set of notes for your personal use and no other use. You are not authorized to sell, license, commercially publish, distribute, transmit, display, or record notes from this class unless you have my written consent to do so.
11. If you are receiving services from the Student Disability Resource Center (SDRC), please notify the Instructor, as soon as possible, and provide an accommodation letter.
12. This course is on Folio. You are responsible for downloading notes **BEFORE** you come into class. Please regularly check Folio for any messages that may be posted pertinent to updates, clarification of instructions and assignments.
14. If you need to contact the Instructor, please use Folio email address of the instructor. The response will be provided within 36 hrs, unless there is an emergency. No responses should be expected after 6 pm on Friday, weekends and holidays.
15. **Cell phone policy: Cell phones are expected to be OFF (or on silent) and OFF your person** (in your purse or book bag) at all times during all classes. If your cell phone goes off during class, you are using the phone (i.e. texting) or cell phone is on your desk/ person at any time during any lecture you will be asked to leave the class. In case of a possible emergency or unforeseen problem (event), please notify me prior to class.
16. **During class activities you are allowed to use electronic devices such as tablets, computers and phones to research the information. After the activity is completed all cell phones should be put away.**
17. **Eating is allowed during the class meetings, but should not become a distraction i.e no loud bags, wrappers etc. Instructor reserves the right to suspend this privilege.**
18. BSPH students are expected to graduate the program with competent professional skills. Professional skills and dispositions are also expected while completing the internship experience. As a student in this course, you are expected to exhibit professionalism at all times. The following is a list of skills BSPH majors are expected to demonstrate:
 - Written communication skills: Student uses appropriate professional title, grammar, structure, punctuation, spelling, tone, etc.
 - Email and other media communication: Student uses appropriate professional title, grammar, structure, punctuation, tone, etc. To write a professional email, please include the following:
 - a salutation,
 - identify who you are,

- what the contact is in reference to (i.e. PUBH3136), and
 - what you would like me to do.
 - At the bottom of the email, please type out your name.
-
- Oral and non-verbal communication skills:
 - In interpersonal communication, student uses or maintains appropriate tone, language, attitude, interpersonal space, etc.
 - In public speaking, student uses or displays appropriate volume, speed, enunciation, eye contact, structure, etc.
 - Organization: Student keeps track of assignments and materials, is prepared for presentations, etc.
 - Initiative: Student can begin tasks and work independently, initiate tasks/projects, etc.
 - Reliability: Student is punctual, completes assignments, meets deadlines, and is prepared for class etc.
 - Collegiality: Student exhibits appropriate, positive, and helpful interactions with others
 - Collaboration: Student collaborates with others on tasks or projects, accepts others' suggestions and criticisms, participates in and provides constructive inputs to discussion and debate, etc.
 -
 - Judgment: Student considers options and their implications when making decisions, does not act impulsively, etc.

 - Respectful: Student respects confidentiality, treats others with respect, etc.
 - Self-Presentation: Student is well groomed, dressed appropriately, well rested, etc.
 - Interpersonal interactions: Students will practice civility when interacting with faculty and fellow students; in cases of disagreement or conflict, students will make every effort to resolve such matters in a respectful manner with a goal towards mutual resolution.

****If a student fails to comply with the list of professional skills, the faculty will provide the student a warning for the first offense. If failure to improve behavior or to make progress in the relevant skills, the faculty member will immediately report the student to the University Student Conduct Board for violating the Student Code of Conduct.**

Course Schedule (tentative)

Week	Date	Topic	Content	Assignment
1	08/16/16	Course introduction Syllabus overview	Syllabus	Complete Course Orientation on Folio Bring the Textbook and Syllabus
	08/18/16	Introduction: The Environment at Risk	Chapter 1, Lecture	Read Chapter 1,
2	08/23/16	Environmental Epidemiology	Chapter 2, Lecture	Read Chapter 2 Discussion 1
	08/25/16	Environmental Epidemiology <i>-continued</i>	Chapter 2	Read Chapter 2 Quiz 1
3	08/30/16	Environmental Toxicology	Chapter 3, Lecture	Guest Lecturer, Dr. Afriyie-Gyawu , Read Chapter 3, Discussion 2
	09/01/16	Environmental Toxicology <i>-continued</i>		Exercises Quiz 2
4	09/06/16	Environmental Policy/Regulation	Chapter 4, Lecture	Read Chapter 4/ Discussion 3
EXAM 1- Online, 09/08/16 (NO CLASS MEETING)				
5	09/13/16	Zoonotic and Vector-Borne Diseases	Chapter 5, Lecture	Read Chapter 5
	09/15/16	Zoonotic and Vector-Borne Diseases <i>-continued</i>		Guest Lecturer, Dr. Fung Quiz 3
6	09/20/16	Toxic Metals/Elements	Chapter 6, Lecture	Read Chapter 6
	09/22/16	Toxic Metals/Elements <i>-continued</i>	Chapter 6, Article 1	Read Article /Exercises

Week	Date	Topic	Content	Assignment
7	09/27/16	Pesticides and Other Organic Chemicals	Chapter 7, Lecture	Read Chapter 7
	09/29/16	Pesticides and Other Organic Chemicals <i>-continued</i>	Chapter 7,	Exercises Quiz 4
8	10/04/16	Ionizing and Non-Ionizing Radiation	Chapter 8, Lecture	Read Chapter 8
EXAM 2, Online, 10/06/16 (NO CLASS MEETING)				
9	10/11/16	Water Quality	Chapter 9 Lecture	Read Chapter 9
	10/13/16	Water Quality <i>-continued</i>	Chapter 9	Exercises Quiz 5
	10/14/16			Group assignment: Peer reviewed article review due 10/14/16
10	10/18/16	Air Quality	Chapter 10 Lecture	Read Chapter 10
	10/20/16	Air Quality <i>-continued</i>		Discussion 4, Exercises Quiz 6
11	10/25/16	Food Safety	Chapter 11 Lecture	Read Chapter 11
	10/27/16	Food Safety	Chapter 11 Article 2	Read article/Exercises
12	11/01/16	Solid and Liquid Wastes	Chapter 12 Lecture	Guest Lecture, Dr. Asli Aslan Read Chapter 12
	11/03/16	Occupational Health& Injuries	Chapter 13 Lecture	Read Chapter 13 Discussion 5
13	11/8/16	Occupational Health & Injuries	Chapter 14 Lecture	Read Chapter 14
EXAM 3 Online, 11/10/16, (NO CLASS MEETING)				

	11/14/16	Environmental Health Issue Brief Paper/Presentation Due		Due by 10:00 PM in Folio Dropbox
14	11/15/16	Final presentations		Comments/Questions,
15	11/17/16	Final presentations		Comments/Questions
THANKSGIVING HOLIDAY				
November 21-27 (NO CLASS MEETING)				
16	11/29/16	Final presentations		Comments/Questions
	12/01/16	Final presentations		Comments/Questions
FINAL EXAM, 12/06/16				