

Term Information

Effective Term Spring 2015
Previous Value Summer 2012

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

We are proposing to add this course to the list of General Education courses in the category of Global Studies.

What is the rationale for the proposed change(s)?

The learning objectives in the Global Studies GE category will be met through the content covered in this course. This course will also give students an opportunity to learn more about public health, in the global context.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

No programmatic implications. This course is regularly offered to our undergraduates.

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area	Pub Hlth: Envirntl Hlth Scis
Fiscal Unit/Academic Org	College of Public Health - D2505
College/Academic Group	Public Health
Level/Career	Undergraduate
Course Number/Catalog	3310
Course Title	Current Issues in Global Environmental Health
Transcript Abbreviation	Issues Envir Hlth
Course Description	Fundamental concepts and principles of environmental health are presented through a critical review and discussion of current issues in global environmental health.
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites
Exclusions

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	51.2202
Subsidy Level	Baccalaureate Course
Intended Rank	Sophomore, Junior, Senior

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

General Education course:

Global Studies (International Issues successors)

The course is an elective (for this or other units) or is a service course for other units

Previous Value

Required for this unit's degrees, majors, and/or minors

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Describe how the environment is defined
- Describe several major ways in which the environment and human health are linked in different parts of the world and for different populations
- Describe several ways by which scientific studies determine the quantitative relationship between environmental parameters and health
- Describe several ways by which the health impact from major environmental hazards can be effectively controlled.

Content Topic List

- The Global Burden of Disease-- Environmental Contributions
- Environmental Epidemiology; Environmental Toxicology
- Environmental Policy and Regulation; Exposure Assessment
- Chemicals in the Environment; Environment and Infectious Disease
- Risk Assessment; Radiation
- Midterm Exam; Exam Review/Water Quality
- Water Treatment and Sanitation; Case-Study: Environment and Schistosomiasis
- Air Quality; Food Safety
- Solid and Liquid Wastes; Occupational Health
- Global Environmental Change and Human Health I; Global Environmental Change and Human Health II

COURSE CHANGE REQUEST
3310 - Status: PENDING

Last Updated: Bisesi, Michael Salvatore
03/05/2014

Attachments

- PUBHEHS 3310 syllabus.docx
(Syllabus. Owner: Ferketich, Amy Kathleen)
- GE CourseProposal_Concepts of Global Environmental Health_(MSB_revised).docx
(GEC Course Assessment Plan. Owner: Ferketich, Amy Kathleen)

Comments

- We have made the requested changes to the assessment plan document. *(by Ferketich, Amy Kathleen on 03/04/2014 05:19 PM)*
- See 2/13 e-mail to A. Ferketich. *(by Vankeerbergen, Bernadette Chantal on 02/13/2014 02:39 PM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Ferketich, Amy Kathleen	01/30/2014 03:18 PM	Submitted for Approval
Approved	Katz, Mira L.	01/30/2014 05:57 PM	Unit Approval
Approved	Bisesi, Michael Salvatore	01/31/2014 12:13 PM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	02/13/2014 02:40 PM	ASCCAO Approval
Submitted	Bisesi, Michael Salvatore	02/14/2014 08:16 AM	Submitted for Approval
Approved	Katz, Mira L.	02/14/2014 04:40 PM	Unit Approval
Approved	Bisesi, Michael Salvatore	02/17/2014 10:38 AM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	02/17/2014 11:33 AM	ASCCAO Approval
Submitted	Ferketich, Amy Kathleen	03/04/2014 05:19 PM	Submitted for Approval
Approved	Ferketich, Amy Kathleen	03/04/2014 05:19 PM	Unit Approval
Approved	Bisesi, Michael Salvatore	03/05/2014 11:59 AM	College Approval
Pending Approval	Hanlin, Deborah Kay Hogle, Danielle Nicole Jenkins, Mary Ellen Bigler Nolen, Dawn Vankeerbergen, Bernadette Chantal	03/05/2014 11:59 AM	ASCCAO Approval

ATTACHMENT 3 – Course Syllabus



The Ohio State University College of Public Health

Course Syllabus

PUBHEHS 3310 – *Current Topics in Global Environmental Health* (3 credits)

GE Course Categories: Global Studies

Course Director: Division EHS Faculty Members (Russell Savage, PhD; Darryl Hood, PhD; Michael Bisesi, PhD)

Teaching Assistant: PhD Student TBN

Guest Lecturer(s): To be determined

Days/Time/Location: To be determined

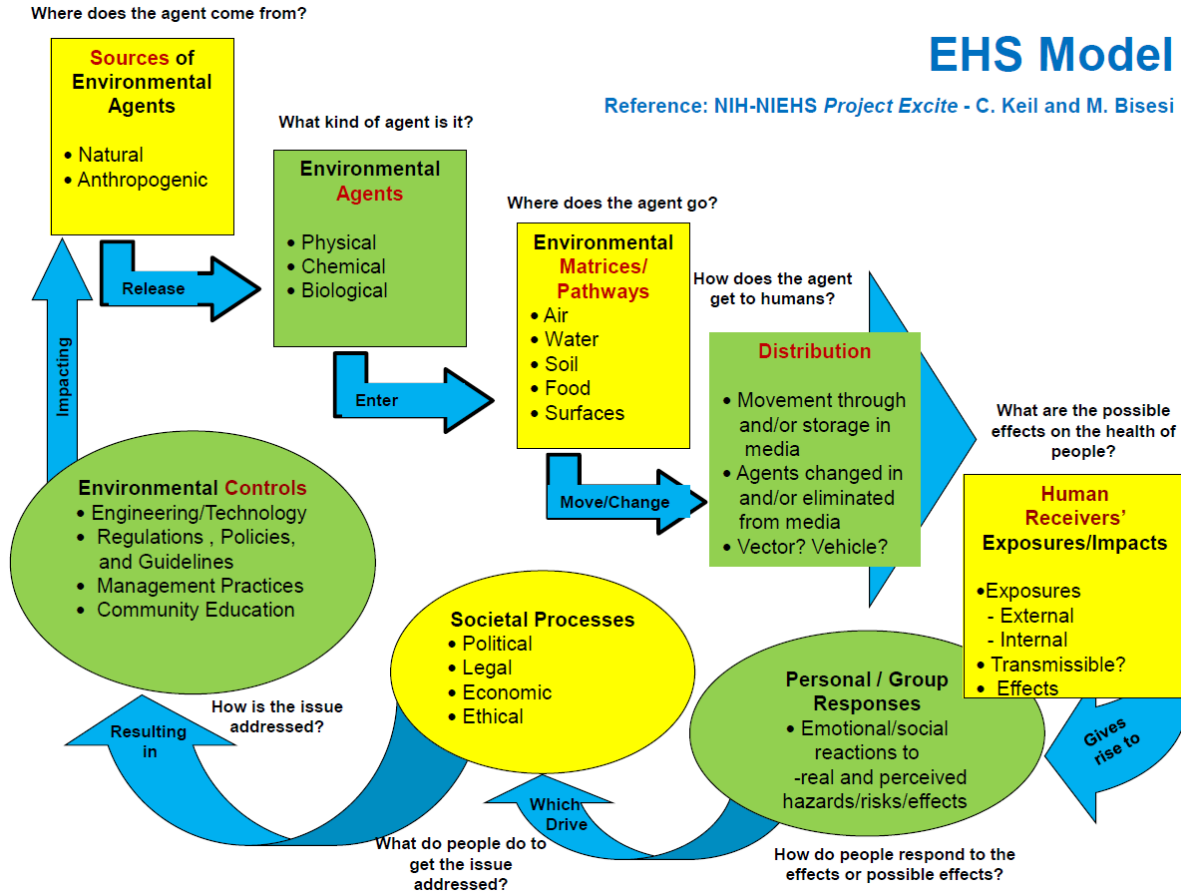
Course Director Office Hours: To be determined

Course Description: According to the World Health Organization (WHO), about 24% of the global disease burden and 23% of premature mortality is attributable to environmental factors. In this course, we will consider environmental health sciences as a cornerstone to public health in its focus on chemical, physical, and biological agents in the environment that influence human health. The course is designed to introduce students to the basic environmental and biological processes by which the human health is impacted.

During the term, we will study the tools that environmental health scientists use to understand the relationships between the environment and health. These tools include exposure assessment (e.g. who is exposed? How? And how much exposure?), toxicology (e.g. once people are exposed to chemicals, what happens?), epidemiology (e.g. what relationships are there between exposure and disease?) and risk analysis (Does it matter if people are exposed?). In the second half of the term, we will use the tools we developed in the first half to examine current environmental health issues. These include specific studies looking at issues involving fundamental principles of environmental health and issues involving air, water, soil, and food. The following model provides a framework for organizing these complex processes and enhancing the learning experience of environmental health science(s):

EHS Model

Reference: NIH-NIEHS Project Excite - C. Keil and M. Bisesi



GE (Global Studies) and General Core Course Learning Objectives:

Upon successful completion of this course, students are expected to:

1. define environmental health science;
2. describe how the environment, exposure, and human health/illness are associated in different parts of the world and for different populations;
3. summarize some of the political, economic, cultural, physical, social, and philosophical aspects of environmental health for one or more of the world's nations, peoples and cultures outside the U.S.
4. recognize the role of national and international diversity in shaping their own attitudes and values as global citizens regarding environmental health; and,
5. summarize several ways by which the health impact from major environmental hazards can be effectively evaluated and controlled.

The objectives will be achieved via presentation/coverage of relevant organized topics/modules and a combination of active student attendance/involvement with aligned classroom lectures and facilitated discussion, assigned readings, assigned reviews and typed summaries of relevant cases and topics, and exams.

Applicable BSPH Competencies:

Public Health Core (C) Competencies - All graduates of the BSPH degree program will be prepared to:

1. summarize the historic milestones in public health which have influence current roles and responsibilities of current public health agencies, organizations and systems.
2. compare and contrast types of major domestic and international public health issues, including sources/causes of infectious/chronic diseases, transmission, risk factors, morbidity and mortality.
3. discuss various approaches/strategies for identification, response and intervention to address and attempt to resolve common public health issues.
4. identify genetic, social, political, cultural, behavioral, socioeconomic, demographic and ethical factors and relationships to domestic and international public health issues and determinants of health.
5. apply the fundamental principles of the five core disciplines of public health (biostatistics; environmental health; epidemiology; health administration/policy; health behavior/promotion) to domestic and international population health issues.

Required Textbook: - Robert H. Friis (2011) *Essentials of Environmental Health*. Jones and Bartlett Publishers, Boston.

Evaluation:

Activity	Percentage of Final Grade
Mid-term Exam: (80min. Multiple Choice + Short Answer)	33%
Final Exam: (120min. Cumulative; Multiple Choice + Short Answer)	37%
Typed Discussion Summaries x 3: Reviews of current and case-based topics presented as 2-page typed summaries	30% (10% each)

The minimum percentages to achieve a given grade are as follows:

Grade	Percentage	Meaning
A	100-93	Outstanding performance; consistently shown exceptional depth of understanding and/or capacity for creative application of course concepts.
A-	92.9-90	Very strong performance with demonstrated depth of understanding and/or ability to apply course concepts
B+	89.9-87	Performance at an expected level; work is complete and shows solid understanding and application of course concepts
B	86.9-83	Adequate performance; work is complete but shows some limitations in grasp or ability to apply course concepts
B-	82.9-80	Marginally acceptable; work is conducted only to meet minimum course requirements
C+	79.9-77	Indicates only average understanding or application of course concepts
C	76.9-73	
C-	72.9-70	
D+	69.9-67	Below average or failure to meet stated course requirements
D	66.9-60	
E	<60	

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research and other scholarly activities. It is expected that all students understand and follow the University's *Code of Student Conduct*. Academic Integrity: "It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>."

Availability of Disability Accommodations: Any student requiring special accommodations for a disability should contact course director to arrange an appointment as soon as possible. At the appointment, we can discuss the course format, anticipate your needs and explore potential accommodations. "Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>."

Student Assistance: Personal, social and academic wellness services are provided by the Younkin Success Center at OSU. Please connect to <http://younkinsuccess.osu.edu/wellness-services/> for details regarding counseling services intended to help students manage stress and anxiety as well as tutoring and learning services to assist with developing improved study/course skills and time management.

PUBHEHS 3310 *Current Topics in Global Environmental Health* (3 credits)

Course Schedule

Week	Topic(Instructor)	Assigned Readings
I. Introduction		
1 Session 1 –	Overview, Environmental Role in the Global Burden of Disease;	Required Reading: http://www.who.int/quantifying_ehimpacts/publications/en/9241546204chap3.pdf
1 Session 2 –	Introduction to the EHS Model(Savage)	Chapter 1 -
II. Environmental Agents		
2 Session 3 –	Introduction to Agents Physical Agents – Radiation	Chapter 8 -
2 Session 4 –	Noise	
3 Session 5 –	Biological Agents	Chapter 5 -
3 Session 6 –	Chemical Agents	Chapter 6 and 7
4 Session 7 –	Agents Wrap-up and Review	
III. Environmental Matrices		
4 Session 8 –	Introduction to Matrices Indoor Air	Chapter 10
5 Session 9 –	Outdoor Air	Chapter 10
5 Session 10 –	Climate Change	
6 Session 11 –	Water Quality	Chapter 9
6 Session 12 –	Food Quality	Chapter 11
7 Session 13 –	Matrices Wrap-up and Review for Exam I	
7 Session 14 –		MID-TERM EXAM
IV. Tools for Human Environmental Evaluations		
8 Session 15 –	Epidemiology	Chapter 2
8 Session 16 –	Toxicology	Chapter 3 Required Reading/Tutorial: <ul style="list-style-type: none"> National Library of Medicine. Toxicology Tutor I: Basic Principles. http://sis.nlm.gov/enviro/toxtutor/Tox1/amenu.htm (Complete the following modules: Introduction, Dose Response, Toxic Effects, Interactions).

Week	Topic(Instructor)	Assigned Readings
9 Session 17 –	Toxicology/Risk Assessment	Required Reading/Tutorial: <ul style="list-style-type: none"> National Library of Medicine. Toxicology Tutor I: Basic Principles. http://sis.nlm.nih.gov/en_viro/toxtutor/Tox1/amenu.htm (Complete ONLY the Risk Assessment module)
9 Session 18 –	Risk Assessment	
10 Session 19 –	Risk Communication	GENERAL INSTRUCTIONS: Please read/view/study the content as follows: <ul style="list-style-type: none"> Go to the CDC Website located at: http://emergency.cdc.gov/cerc/CERConline/index.html NOTE: Click the “Next” arrow located at right bottom corner of the first slide and proceed. View the all the slide/video clip categories/modules from the on-line CDC course <i>Crisis and Emergency Risk Communication</i> (CERC) . . . (Please note that you <u>do not need</u> to complete any of the optional exercises.)
10 Session 20 –	Tools Wrap-up and Review	
V. Special Populations		
11 Session 21 –	Children	
11 Session 22 –	Workers	Chapter 13
VI. Special Topics		
12 Session 23 –	Environmental Cancer(s)	
12 Session 24 –	Municipal Wastes	Chapter 12
13 Session 25 –	Ethics/Environmental Justice	
VII. Regulators and Regulations		
13 Session 26 –	Federal, State and Local Agencies and Policies	Chapter 4
14 – Session 27 –	Regulations	
14 Session 28 –	Risk Management and Review for Final	
End of Semester –		
FINAL EXAM http://registrar.osu.edu/scheduling		

**The Ohio State University General Education (GE)
Request for Course Approval Summary Sheet**

1. Academic Unit(s) Submitting Request:

College of Public Health
Division of Environmental Health Science

2. Book:

Friis, R. (2011) *Essentials of Environmental Health*, Second Edition, Jones & Bartlett Publishers.

3. Registrar Listing and Number:

PUBHEHS 3310 *Concepts in Global Environmental Health*

3. GE area(s) for which course is to be considered:

Global Studies

4. Attach:

- A statement as to how this course meets the general principles of the GE Model Curriculum and the specific goals of the category(ies) for which it is being proposed (**see ATTACHMENT 1**);
- An assessment plan for the course (**see ATTACHMENT 2**); and
- The syllabus, which should include the category(ies) that it satisfies and objectives which state how this course meets the goals/objectives of the specific GE category(ies) (**see ATTACHMENT 3**)

5. Proposed Effective Date:

Spring Semester 2015

6. If your unit has faculty members on any of the regional campuses, have they been consulted?

Not Applicable

7. Select the appropriate descriptor for this GE request:

✓ **Existing course with no changes to the *Course Offerings Bulletin* information.** Required documentation is this GE summary sheet, the course change request, and the course syllabus.

ATTACHMENT 1 – Global Studies GE Category: Aligned GE and Course Objectives and Assignments

a) How do the course objectives address the GE category expected learning outcomes?

The course PUBHEHS 3310 *Concepts in Global Environmental Health* will fulfill the GE category Global Studies. The objectives for the OSU GE Global Studies category follow:

1. Students understand some of the political, economic, cultural, physical, social, and philosophical aspects of one or more of the world's nations, peoples and cultures outside the U.S.
2. Students recognize the role of national and international diversity in shaping their own attitudes and values as global citizens.

For the course, the general (GE) Global Studies objectives are customized with focus on the global environmental health aspects and embedded within the overall course learning objectives, as follows:

Upon successful completion of this course, students are expected to:

1. define environmental health science;
2. describe how the environment, exposure, and human health/illness are associated in different parts of the world and for different populations;
3. summarize some of the political, economic, cultural, physical, social, and philosophical aspects of environmental health for one or more of the world's nations, peoples and cultures outside the U.S.
4. recognize the role of national and international diversity in shaping their own attitudes and values as global citizens regarding environmental health; and,
5. summarize several ways by which the health impact from major environmental hazards can be effectively evaluated and controlled.

Concepts in Global Environmental Health teaches students how to address the interplay between the environment, and individual and population health. This includes developing an understanding of the different social, political, economic, cultural, physical, and philosophical aspects that influence disease incidence and disease burden in different regions. Students address topics such as indoor air quality and how concerns regarding cultural practices, energy policy, and climate change all impact upon health effects of poor air quality. Students also discuss, within the framework of the Environmental Health Science model, the different legal and societal processes that influence regulation and policy.

b) How do the readings assigned address the GE category expected learning outcomes?

The chapters in the textbook cover the major agents of environmental disease (biological, chemical, and physical agents) along with topics relating to the application of environmental health in the major matrices (water, air, food, and soil). These chapters provide the framework for defining environmental health science and its application, allowing for discussion of how these elements are similar and/or differ around the world. Within each chapter, case studies are presented which highlight the diversity of exposures, outcomes, and responses. Additional readings, such as those from the World Health Organization, focus on specific health issues and regions, and give broader and more in-depth summary of the complex interplay between environment and health.

c) How do the topics address the GE category expected learning outcomes?

Many environmental health issues and the related topics are universal to most, if not all, countries. The categories of environmental contaminants that can affect human health are the same: physical, chemical and biological. However, factors such as geographic location, climate, governance structure, policy, economics,

culture, etc. can influence the specific sources and types of toxicants and pathogens from within the three general categories; the levels of exposure via air, water, soil and food; and, the modes of human exposure. Accordingly, sessions, readings and discussion will include content for students to compare and contrast. For example, causes of ambient chemical air pollution in the US and China are very similar, however, policies are dramatically different resulting in a much more severe environmental health problem in China (Global GE 1). Another example, also involving air contaminants, is the issue of the collective air emissions from around the world affecting the Greenhouse Effect and in turn climate change. Different countries are approaching this collectively, independently, or doing little to address. However, the issue requires thinking beyond impacts locally, but thinking globally and knowing attitudes and approaches elsewhere (Global GE 2).

d) How do the written assignments address the GE category expected learning outcomes?

The written assignments, in the form of short discussion papers, require students to apply the basic facts and definitions they learn, such as characteristics of biological, chemical, and physical agents, to current events domestically and internationally. They also require that students consider the factors which may play the greatest role in a given situation. Readings and cases in particular use examples from the US as well as other countries. (see Attachment 2)

**ATTACHMENT 2 – Global Studies GE Category: Individual and Group Assessment Plan for
PUBHEHS 3310 Concepts in Global Environmental Health**

The course lectures, facilitated discussions, readings, case summaries, and exams are aligned with the course topics and learning objectives. The course is designed to provide sufficient scope and depth of domestic and international (global) environmental health content with an appropriate level of expected learning objectives consistent with core content sufficient for a GE course and as foundation for applicable programs. Each exam and assigned case summary will be associated with defined topics, lectures, readings and discussions. Performance will provide documentation that successful students have met the specific learning objectives.

a) Specific Methods used to demonstrate student achievement of the GE expected learning outcomes

GE Expected Learning Outcomes	Direct Methods (<i>assess student performance related to the expected learning outcomes. Examples of direct assessments are: pre/post test; course-embedded questions; standardized exams; portfolio evaluation; videotape/ audiotape of performance</i>)	Indirect Methods (<i>assess opinions or thoughts about student knowledge, skills, attitudes, learning experiences, and perceptions. Examples of indirect measures are: student surveys about instruction; focus groups; student self-evaluations</i>)
(1) Students understand some of the political, economic, cultural, physical, social, and philosophical aspects of one or more of the world's nations, peoples and cultures outside the U.S.	Embedded questions on exams ¹ Readings and case summaries, and case discussions. ²	Opinion survey ³
(2) Students recognize the role of national and international diversity in shaping their own attitudes and values as global citizens.	Embedded questions on exams ¹ Readings and case summaries, and case discussions. ²	Opinion survey ³

¹ On each lecture exam and the final, several questions will be written specifically to assess student achievement of each GE expected learning outcome. The scores on these questions will be included in the totals for the exam but will also be analyzed separately so that the data can be used in revising the course and for GE assessment reporting purposes. See Example 1 below.

² Cases involving environmental issues in other countries will be provided for summary and facilitated discussion. See Example 2 below.

³ At the end of the semester, each student will be asked to fill out an opinion survey. The survey found in Appendix C contains specific questions asking to what extent each student has achieved the two GE expected learning outcomes in this course.

Example 1: Embedded “objective” questions (w/ truncated answer choices):

1. Worldwide, the percentage of the population using solid fuels for cooking has _____ from 1980-2010.
 - a. Increased
 - b. Decreased**
2. Worldwide, the number of people using solid fuels for cooking has _____ from 1980-2010. In the African region, that same number has _____ from 1980-2010
 - a. Increased, stayed the same
 - b. Stayed the same, increased**
3. Which exposure results in most of the disability adjusted life years (DALYs) worldwide relative to the Global (Environmental) Burden of Disease?
 - a. Indoor Air Contaminants**
 - b. Outdoor Air Contaminants

Example 2 “Case Study” w/ worksheet and facilitated discussion:

Please read the three cases/articles: “Toward a Model of International Environmental Action: A Case Study of Japan's Environmental Conversion and Participation in the Climate Change Environmental Regime”, “A survey of urban noise annoyance in a large Brazilian city: the importance of a subjective analysis in conjunction with an objective analysis” and “Risk of lung cancer and residential radon in China pooled results of two studies”. Then, complete and prepare to discuss in class the case worksheet.

b) Explanation of level of student achievement expected:

In general, for exams, success means that students will correctly answer a minimum of 75% of the embedded GE questions correctly. For the applied case studies addressing domestic and international issues, students will complete the readings and the worksheet plus participate in the facilitated discussion with expectation for minimum 75% average.

c) Description of follow-up/feedback processes:

At the end of the course, in addition to the SEI, we will ask some survey questions specifically related to the theme of “global” (i.e. domestic; international) environmental health to determine if students were satisfied with the coverage of topics and modes of delivery, assignments and overall assessment. If there are justifiable issues they will be addressed via an action plan (i.e. course modifications) to resolve. These end-of-semester survey data will be archived by the course director and the College’s Senior Associate Dean for Academic Affairs as part of our undergraduate course/program assessment process. The survey data and, if necessary, the action plans will be discussed with the undergraduate curriculum committee. We will also use these data to write a GE summary when the ASCC Assessment Panel asks for a report.