Voyage: Fall 2013  
Discipline: Public Health  
SEMS 2500-108: Introduction to Environmental Public Health  
Proposed as Lower Division:  
Faculty Name: Ralph Allen, Ph.D. Professor of Public Health Sciences and Professor of Chemistry  

Pre-requisites: None  

**COURSE DESCRIPTION**  
This course is an introduction to the population health approach to public health. It is designed to expose students to a foundational knowledge of U.S. & global public health, and develop an appreciation of how public health knowledge relates to their lives. It is a survey of the basic principles of public health practice: principles of evidence-based public health, the use of scientific methods to assess risks, and tools for implementation, including health communications and informatics; applications of social and behavioral sciences; and health policy, law, and ethics. Methods for addressing non-communicable diseases and communicable diseases are introduced. An overview of the U.S. health care system and comparison with health care systems in other countries are explored, as well as public health institutions and systems. This course may be used to fulfill a social science requirement.  

**COURSE OBJECTIVES**  
On successful completion of this course, the student should be able to:  
1. Identify the historical development of public health and ways that public health emerges in literature and the arts, current events, and everyone’s daily life.  
2. Illustrate the interdisciplinary, cross-cutting, or ecological character of public health and the contributions of a range of disciplines and professions to improving health.  
3. Explain the basic principles of epidemiology, including rates, risk factors, disease determinants, causation, and public health surveillance.  
4. Explain the role of environment on human health.  
5. Describe how toxicological studies provide information to help predict the impact of chemicals (including medicines) on health.  
6. Describe how Public health professionals (and regulators) must take information from such studies and, while understanding the limitations of this knowledge, they must make risk assessments and how they assess the options for intervention to improve or protect the human population.  
7. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.  
8. Explain how public health can utilize health information and health communications to improve the health of populations by making concepts “stick” so appropriate changes are adapted.
9. Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues and explain how health policy and law can improve the health of populations.
10. Explain the impact of the environment and communicable diseases on the health of populations.
11. Describe the basic organization of health care and public health systems and the contributions of health professionals.
12. Identify the basic organization of health care and public health systems and the contributions.
13. Identify criteria for evaluating health systems, including issues of access, quality, and cost (including understanding the difference between risk assessment and risk management).
14. Identify the roles of public health in addressing the needs of vulnerable populations and health disparities.
15. Identify the roles of public health in disaster prevention and management.
16. For each Course Topic: In a few sentences, identify for the class major issues relevant to that topic in the SAS Voyage Country you have “adopted” for the course (USA, Great Britain, Ireland, Russia, Germany, France, Portugal, Spain, Morocco, Ghana, South Africa, Argentina, Brazil)

REQUIRED TEXTBOOKS

AUTHOR: Richard Riegelman
TITLE: Public Health 101: Healthy People – Health Populations
PUBLISHER: Jones and Bartlett Learning
ISBN #: 978-1-4496-0149-2
DATE/EDITION: 2010/1st

AUTHOR: Pfizer Public Health Group
TITLE: Milestones in Public Health: Accomplishments in Public Health Over the Last 100 Years
PUBLISHER:
DATE/EDITION: 2006/1st

TOPICAL OUTLINE OF COURSE

A1- August 26: Introduction to course and course requirements/evaluation
Review of course textbooks – Riegelman and Milestones in Public Health: Accomplishments in Public Health Over the Last 100 Years
Introduction to course-related Field Lab
View video, “This is Public Health”, produced by the Association of Schools of Public Health (ASPH) [Downloaded from http://www.thisispublichealth.org/Video.html#Video ]

Reading Assignment:
Review http://www.aacu.org/public_health/index.cfm The Educated Citizen and Public Health webpage from the Association of American Colleges and Universities

Assignment Due Today:
None

Introduction to the Milestones in Public Health Module: Social-Ecological Model of Health [slide deck]
Global Health 101 Chapter 1: The Principles and Goals of Public Health

Reading Assignment: Riegelman – Chapter 1 and view video: “Rachel Carson: Silent Spring”

Assignment Due Today:
None

St. Petersburg: August 29- September 1

A3- September 3: Evidence-Based Public Health – Part 1 Problem Description and Etiology

Reading Assignment: Riegelman Chapter 2 – pp. 17-27 and view video: “Snow”

Assignment Due Today:
None

Hamburg: September 5-8

A4- September 9: Evidence-based Public Health – Part 2 Recommendations and Implementation

Reading Assignment: Riegelman – Chapter 2, pp. 27 – 36

Assignment Due Today:
Answer Discussion Questions at end of chapter and bring to class prepared to discuss. Submit answers in writing prior to start of class.

A5- September 11: Quiz #1: Chapters 1 & 2
Health Informatics and Health Communications (why do ideas make an impression on our actions)

Reading Assignment: Riegelman – Chapter 3

Assignment Due Today:
Study for Quiz #1
Find an article in the newspaper or other media that uses components of the evidence-based public health approach (e.g., presents the burden of disease, draws conclusions about causation, presents evidence-based recommendations, and/or discusses implementation and evaluation. Briefly explain the PERI approach related to the article. Bring to class prepared to discuss. Submit answers in writing prior to start of class.

Antwerp and Le Havre: September 12-16

A6- September 18: Health Informatics and Health Communications
Milestones in Public Health: Chapter 5 CANCER [slide deck]
View Youtube “Hala Moddelmog Testifies Before the Senate” [9 min 36 sec]

http://www.youtube.com/watch?v=QzONCno_Qho
Reading Assignment: Riegelman – review Chapter 3 pp. 49-52 on Decision Making and Risk; also Box 3-2 and 3-3.
Read Milestones in Public Health: Chapter 5 CANCER [pdf]
View video: “Ghost in our Genes”

Assignment Due Today:
Review Milestones in Public Health: Cancer Chapter #5 Case Study – Advocacy and Breast Cancer: 4

The Susan G. Komen Foundation. Submit answers to Questions for Discussion in writing prior to start of class. Come prepared to discuss in class.

Dublin: September 20-23

A7- September 24: Social and Behavioral Sciences

Reading Assignment: Reigelman – Chapter 4
View video: Sowing Seeds of Hunger”

Assignment Due Today:
Answer Discussion Questions at end of chapter and bring to class prepared to discuss. Submit answers in writing prior to start of class.

A8- September 26: Social and Behavioral Sciences

Reading Assignment:
Assignment Due Today:
None

Lisbon and Cadiz: September 27- October 1

Casablanca: October 3-6

A9- October 8: Quiz #2: Chapters 3 & 4
Health Policy, Law, and Ethics

Reading Assignment:
Riegelman – Chapter 5

Assignment Due Today:
Study for Quiz #2
Answer Discussion Questions at end of chapter and bring to class prepared to discuss. Submit answers in writing prior to start of class.

A10- October 11: Health Policy, Law, and Ethics
Milestones in Public Health: Chapter 1 – Vaccines and Disease Prevention Module [slide deck]
Part 1: Introduce Milestones in Public Health Case Study: Human Papilloma Virus Vaccine and Organize Groups for Debate

Reading Assignment:
Milestones in Public Health: Chapter 1 Vaccines and the Eradication of Small Pox [pdf]

Assignment Due Today: None

A11- October 13: Health Policy, Law, and Ethics
Part 2: Group Working Sessions to Prepare for Debate -- Milestones in Public Health Case Study: Human Papilloma Virus Vaccine
Reading Assignment:
None
Assignment Due Today:
Working Session

Tema: October 15-18

A12- October 20: Health Policy, Law, and Ethics
Part 3: Debate -- Milestones in Public Health Case Study: Human Papilloma Virus Vaccine
Reading Assignment:
None
Assignment Due Today:
A13- October 22:  Non-Communicable Disease and Introduction to Toxicology

Reading Assignment:
Riegelman – Chapter 6
Riegelman Case Study: Testing and Screening, p. 122

Assignment Due Today:
Answer Discussion Questions at end of chapter and bring to class prepared to discuss. Submit answers in writing prior to start of class. Be prepared to discuss how the drugs themselves are tested.

A14- October 25: Non-communicable Disease
Milestones in Public Health: Chapter 6 – Cardiovascular Disease: Keeping the Heart Pumping [slide deck]

Reading Assignment:
Read Milestones in Public Health: Chapter 6 CVD [pdf]

Assignment Due Today:
Quiz #3: Chapters 5 & 6
Review Milestones in Public Health Case Study: Obesity and Mandatory Physical Education in Schools. Submit answers to Questions for Discussion in writing prior to start of class. Come prepared to discuss in class.
Turn in first class participation form 6

Cape Town: October 26-30

A15- November 2: Communicable Diseases

Reading Assignment:
Review http://www.aseanplus3-eid.info/index.php Information Centre on Emerging Infectious Diseases in the ASEAN Plus Three Countries
Read “Q&A with Seth Berkley: The Search for an AIDS Vaccine http://blog.ted.com/2010/05/27/qa_with_seth_be/

Assignment Due Today: Be prepared to discuss the role that environment plays incommunicable disease.

A16- November 5: Communicable Diseases

Reading Assignment:
Riegelman – Chapter 7

Assignment Due Today:
Answer Discussion Questions at end of chapter and bring to class prepared to discuss. Submit answers in writing prior to start of class.

A17- November 7: Communicable Diseases: Case 3 – Male Circumcision and HIV: An Evidence-based Public Health Approach

Reading Assignment:

Assignment Due Today:
Answer Questions 1-11 throughout chapter and bring to class prepared to discuss. Submit answers in writing prior to start of class.

A18- November 10: Environmental Health

Reading Assignment:
Riegelman – Chapter 8
Riegelman Case Studies: Sharma’s Village, p. 124

Assignment Due Today:
Answer Discussion Questions at end of chapter and bring to class prepared to discuss. Submit answers in writing prior to start of class.

Buenos Aires: November 12-16

A19- November 18: Environmental Health
Reading Assignment:
Assignment Due Today:
Review Milestones in Public Health Case Study: Chapter 3 Environmental Health. Submit answers to Questions for Discussion in writing prior to start of class. Come prepared to discuss in class.


A20- November 28: Healthcare Systems
Quiz #4 – Chapters 7 & 8

Reading Assignment:
Riegelman – Chapter 11

Assignment Due Today:
Study for Quiz #4
Riegelman Case Study: Healthcare in America For Better or Worse, p. 171. Answer
Questions 1-4 and bring to class prepared to discuss. Submit answers in writing prior to start of class.

A21- November 30: Recap by country of what you learned about your “adopted country” over the course of the voyage for Objective 16 and compare the countries. For each Course Topic: In a few sentences, identify for the class major issues relevant to that topic in the SAS Voyage Country you have “adopted” for the course (include issues of the environment that impact health and steps that are being taken to solve health problems)

Reading Assignment:
None
Assignment Due Today:
Come prepared to report as a group for each county.

A22- December 3: Continuation of presentations on “adopted countries” from November 25.

A23- December 5: Global Health 101
Chapter 15 Working Together to Improve Global Health [slide deck]

Reading Assignment:

Assignment Due Today:
None

A24- December 8: Final Exam
Turn in second/last class participation form

FIELD WORK
Field lab attendance is mandatory for all students enrolled in this course. Please do not book individual travel plans or a Semester at Sea sponsored trip on the day of our field lab.

FIELD LAB (At least 20 percent of the contact hours for each course, to be led by the instructor.)

This research program is affiliated with the Center for Global Health at UVA School of Medicine and collaborates with Dr. Richard Guerrant. The field lab for this course will take place in Accra, Ghana. Students will visit the Department of Biology at the University of Ghana Medical School, where they will learn about ongoing research regarding emerging infectious diseases and multidrug resistance to pathogens. They will also talk with these researchers about their research and clinical activities related to pediatric diarrhea in Southern Ghana, which is a major public health problem not only in Ghana but also in some of the other countries we will visit on our voyage. Students will jot down notes throughout the day regarding their activities and observations. After this field lab, they will investigate what other countries globally experience serious problems with pediatric
diarrhea and how they compare to those in Ghana.

Academic Objectives:
1. Describe the impact of pediatric diarrhea on individual and community health in Ghana.
2. Identify actions of public health in preventing and treating pediatric diarrhea in Ghana.
3. Explain the threat of emerging infections in these settings.

FIELD ASSIGNMENTS
Students will summarize their visit, as well as what they learn about other high incidence/prevalence areas, in a 6 – 8 page paper double-spaced. Specific statistics regarding incidence and prevalence by country should be provided.

METHODS OF EVALUATION / GRADING RUBRIC
The course will be delivered primarily in a lecture/discussion format with application-related experiences and small group work. Students will also work in small groups to complete selected assignments or projects. Class attendance and participation is expected.

Readiness concept: The responsibility to learn is fundamentally that of the student. In order to succeed in learning, students must actively engage in the process. For this reason, you are expected to come to class prepared. Being prepared means that you will read the assignments, give the assignments thoughtful consideration, and you will be able to advocate for your point of view.

COURSE REQUIREMENTS AND EVALUATION:
1. Readings done prior to class and written answers to questions at end of chapters submitted at start of class [5%]
2. Prompt attendance and participation in all classes [10%]
3. Quizzes (4) [20% -- 5% each]
4. Debate: Milestones Case Study – Human Papilloma Virus Vaccine. See separate instructions later in syllabus. [10%]
5. Written answers: Submitted for the three additional Milestones Case Studies [15% -- 5% each]
6. Course “blog”: Each student is expected to create and maintain a “blog” during the course. The blog is intended to solicit student reactions and opinions to course lectures/readings and current events in public health, and offer a platform for students to display their understanding of course concepts in a less formal setting than the course exam and final paper. Students are expected to blog at minimum of once per week; additional blog entries of particularly high-quality may be rewarded with extra credit at the end of the course. The blog will be graded based on completion of the assigned blog entries and the quality of thought and composition of blog entries. [See blog instructions later in the syllabus]. See blog instructions later in the syllabus. [20%]
7. Field Lab [20%]

GRADING SCALE for COURSE
A+= 97-100 B+ =87-89 C+= (77-79) F = below 70 failing
A= 94-96 B= 84-86 C=74-76 12
A- = 90-93 B- =80-83 C- =70-73

LATE WORK POLICY:
If you are unable to meet one or more of the deadlines in this course, please contact me to negotiate a different due date. I usually grant reasonable requests made well before the due date (48 hours or
more). Unless an extension is granted, I will not accept late work.

INTRODUCTION TO PUBLIC HEALTH: CRITERIA FOR EVALUATING CLASS PARTICIPATION
10% of Grade
Student: Date:
This self-evaluation will be used to assess your overall class participation at mid-term, and at the end of the course. Any additional information that you would like me to consider in determining your grade should be included in the Comment section below.
Directions: Rate each item: Always (5) -- Rarely (1) by recording number in the right hand column.
1. Attends class and responds to study questions and class discussion.
2. Prepares for class -- Reading done prior to class participation.
3. Actively and thoughtfully contributes to discussions -- Substantively responds to classmates’ comments.
4. Utilizes active listening skills to foster discussion.
5. Incorporates content from readings into class discussions.
6. Respects the contributions and opinions of others.
7. Raises appropriate issues and questions to facilitate discussion.
Comments:

RESERVE LIBRARY LIST

AUTHOR: Megan Landon
TITLE: Environment, Health and Sustainable Development
PUBLISHER Open University Press:
ISBN #: 0 335 21841 5 (paperback)
DATE/EDITION: 2006

ELECTRONIC COURSE MATERIALS

HONOR CODE
Semester at Sea students enroll in an academic program administered by the University of Virginia, and thus bind themselves to the University’s honor code. The code prohibits all acts of lying, cheating, and stealing. Please consult the Voyager’s Handbook for further explanation of what constitutes an honor offense.

Each written assignment for this course must be pledged by the student as follows: “On my honor as a student, I pledge that I have neither given nor received aid on this assignment.” The pledge must be signed, or, in the case of an electronic file, signed “[signed].”