

College of Public Health & Health Professions
Environmental Health Program
PHC 6937: Environmental Management of Vector Borne Diseases

Date: Spring semester, 2009
Thursdays 1:30-4:30 pm, HPNP G201

INSTRUCTOR INFORMATION

Professor: Bernard A. Okech, BS, MS, PhD
Office Hours: Room DG 93: Thurs. 11.00–12.00 noon. Fri. (by Appointment only): 11.00am-1.00pm
Phone: 904-461-4024 (Whitney Lab) or 352-273-5254 (Gainesville)
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COURSE OVERVIEW AND PURPOSE

Globally, vector borne diseases cause of millions of deaths especially among vulnerable groups like children and contribute to crippling chronic illnesses among adults particularly in developing countries. Mosquitoes contribute substantially to the transmission of several of these human diseases including West Nile Virus, Dengue Haemorrhagic Fever, Malaria, Chikungunya and others. As the threat of these vector borne diseases increases along with the growing concern about global environmental safety, the methods for controlling these disease vectors need to be environmentally sound. As such, there is a need for expert public health personnel with the knowledge and management skills to control these disease vectors in an environmentally safe way. This course is provided to increase the number of public health professionals who can provide this expertise to local, state and federal governments in addition to other agencies involved in global health around the world. This course is mainly designed for graduate students in MPH, MS, DVM, PhD programs and should be considered an essential training for practitioners of global public health.

The World Health Organization defines environmental management for vector control as the planning, organization, carrying out and monitoring of activities for the modification and/or manipulation of environmental factors or their interaction with man with a view to preventing or minimizing vector propagation and reducing man-vector-pathogen contact. It entails either (or both): 1) environmental modification - permanent infrastructural changes of a capital-intensive nature, 2) environmental manipulation – recurrent actions aimed at achieving unfavorable conditions for vector breeding. In this course we will go beyond the conventional areas of environmental management as defined above and also cover environmentally sound vector borne disease control methods.

COURSE OBJECTIVES

Upon successful completion of the course, students should be able to:

1. Describe the history and the evolution of environmental methods used to control disease vector mosquitoes
2. Identify the major environmental methods used for the control of vector-borne diseases
3. Describe the specifics of environmental management methods used to control vector-borne diseases important in Florida, the United States, and selected diseases of global significance.
4. Describe the public health significance of environmental management of vector-borne diseases
5. Advise on the application of environmental management for the control of specific vector-borne diseases.
6. Describe the concepts in the planning, design and implementation of environmental management for control of vector-borne infectious diseases

7. Describe an appropriate environmental management response to outbreak of a specific vector-borne disease
8. Apply fundamental course principles and concepts when critiquing a published research article, writing a report or a presentation on environmental management for disease vectors.

SUGGESTED READING MATERIALS

1. Pest and Vector Control, Cambridge University Press, H. F. van Emden and M. W. Service
2. The Mosquito Wars: A History of Mosquito Control in Florida (Florida History and Culture) by Gordon Patterson
3. Disease Prevention Through Vector Control (Paperback), by Madeleine C. Thomson
4. Ecology and Control of Vector-borne Diseases, Editors: Willem Takken Bart G.J. Knols.
5. Vector- and Rodent-Borne Diseases in Europe and North America By Norman G. Gratz - Cambridge University Press.
6. Guidelines for Dengue Surveillance and Mosquito Control, Second Edition, WHO Pacific Regional Office, Education in Action Series, No 8, WHO Regional Office for the Western Pacific
7. Ecosystems and Human Well-being, By Millennium Ecosystem Assessment (Program Published by Island Press, 2005 ISBN 1559632704, 9781559632706
8. Journal Articles and Commentaries as appropriate

COURSE EVALUATION AND GRADING

Students will receive points as outlined below.

1. Class attendance and participation in all activities without fail (20), review research articles and papers (20), written exams (20), case studies (20), student presentation (20)
2. Grading scale: Points:

A	B+	B	C+
90-100	85-89.9	80-84.99	75.0-79.99
C	D+	D	F
70.0-74.99	65.0-69.99	60.0-64.99	0-59.99

OUTLINE OF TOPICS

1. Introduction to course/Major vector-borne diseases in the world
2. History of vector-borne disease management focusing on the environment
3. Environmental basis for the management and control strategies for vectors
4. Chemical strategies the control of vectors of diseases
5. Biological Methods the control of vectors of diseases
6. Water management Methods for the control of vectors of diseases
7. Physical methods for the control of vectors of diseases
8. **Mid Term exam and (or)Team paper**
9. Genetic strategies for the control of vectors of diseases
10. Social and Behavior change for the control of vectors of diseases
11. Evaluation of vector borne disease management strategies
12. Student presentations
13. Student presentations
14. Student presentations
15. Student presentations
16. **Exams**

UNIVERSITY'S HONESTY POLICY (CHEATING AND USE OF COPYRIGHTED MATERIALS)

Academic Integrity – Students are expected to act in accordance with the University of Florida policy on academic integrity (see this web site for more details:

<http://www.dso.ufl.edu/studentguide/studentconductcode.php>

Cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

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

Policy Related to Class Attendance: All students signed up for the class must attend all the classes. Marks will be awarded for attendance. If you have to skip a class, I will need 7 day notice and justifiable reasons for not being able to attend. In cases that are acceptable, you will lose 20% of class attendance marks

Policy Related to Make-up Exams or Other Work

I expect that you will attend and be prepared to participate in all class sessions. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis. For cases, where student misses exam with permission they will be given a make up exam. There are no exceptions to this rule.

Statement Related to Accommodations for Students with Disabilities

Accommodations for Students with Disabilities

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

Counseling and Student Health

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: <http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

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

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

BUT – Do not wait until you reach a crisis to come in and talk with 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.

Suggested Additional Information (not required)

Explore websites on the internet. There is a lot of useful information to supplement class work:

1. <http://www.mosquito.org/#>
2. <http://www.who.int/apoc/vector/en/>

Class Demeanor Expected by the Professor (late to class, cell phones)

Remember the early bird catches the worm – please no lateness to class. NO cell phones in class. All students are expected to be cordial to each other

Final Note

This course syllabus will be posted to a student accessible website and will be available at the departmental office.