

**University of Florida**  
**College of Public Health & Health Professions Syllabus**  
**PHC 6515: One Health: Applied Techniques in Public Health Entomology (3 credit hours)**  
Semester: Summer, 2018  
Delivery Format: On-line  
Course Website or E-Learning *if applicable*

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**Instructor Name:** Bernard A. Okech, MS, PhD, MPH  
**Room Number:** Office EPI 116  
**Phone Number:** 352-273-5254  
**Email Address:** bokech@ufl.edu  
**Office Hours:** Thursdays, 9.00am – 11.00am  
**Teaching Assistants:** TBD  
**Preferred Course Communications (e.g. email, office phone):** email and via Canvas

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### **Prerequisites**

Public Health Biology or equivalent after consulting with the instructor for eligibility

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## **PURPOSE AND OUTCOME**

### **Course Overview**

Vector-borne and zoonotic diseases are a major public health burden worldwide. The complex interaction of man and the environment (animals, insects, plants), is often the reason for the spread of these diseases to humans. To effectively curtail the spread of these diseases to humans requires a broad understanding of the applied techniques and methodologies used in the field to study the dynamics of transmission of these diseases in specific contexts. The field of public health entomology seeks to understand population biology of vector borne diseases and the insects that transmit them in order to understand transmission of VBD's and to come up with control methods to reduce the human health burden.

This course aims to increase the pool of the skilled workforce with adequate knowledge on these techniques to undertake detailed studies of these vector borne diseases, many of which are emerging and re-emerging in nature.

This course is designed to introduce students from various backgrounds to basic applied field techniques in the study of medical entomology and vector borne diseases. Students will learn about the entomology techniques used for collection and analysis the samples to understand vector borne disease transmission. Emphasis will be placed on topical and emergent issues in the world today related to of vector borne, zoonotic disease, prevention and control approaches and the connections between wildlife, domestic animals, human and environmental health. Lectures may be complemented by in-class discussions if requested.

### **Relation to Program Outcomes**

Students will acquire the knowledge and skills to implement activities related to vector borne disease surveillance, prevention and control within the constantly changing and interconnected space of wildlife, domestic animals, human and environment utilizing applied field techniques

### **Course Objectives and/or Goals**

After completing this course, the student should be able to:

- Demonstrate an in-depth understanding of the global disease burden related to vector-borne diseases.
- Describe the public health importance of major vector borne diseases.
- Identify the arthropod vectors, their life cycles and the associated diseases that they transmit.
- Compare and contrast the surveillance methods for arthropod vectors of disease based on ecological and public health considerations.
- Describe the basic techniques used in the incrimination of arthropod vectors as transmitters of disease.
- Formulate and develop a prevention and control plan for the arthropod vectors of diseases, with particular attention to their impact on environment.

### Instructional Methods

This course will be delivered online via Canvas

*What is expected of you?*

You are expected to actively engage in the course throughout the semester and to prepare ahead of time for the classes. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the discussion sessions. If you are not prepared for the discussion sessions, you may struggle to keep pace with the activities occurring in the course, and it is unlikely that you will reach the higher learning goals of the course. Your participation fosters a rich course experience for you and your peers that facilitate overall mastery of the course objectives. You must complete all assignments by their due date

## DESCRIPTION OF COURSE CONTENT

### Topical Outline/Course Schedule

Week	Date(s)	Topic(s) and Assignments	Suggested Readings
1	7 May 2018	Welcome and introduction to the course	Syllabus
2	14 May 2018	Insects and Vector Borne diseases of great public health importance:  Assignment #1 due (5pts)  Online discussion	1) Vector and Rodent Borne Diseases in Europe and North America, Norman Gratz, Cambridge University Press 2) Public Health Entomology, Jerome Goddard, CRC Press 3) Medical and Veterinary Entomology, 2 <sup>nd</sup> edition. 2009. Academic Press
3	21 May 2018	Overview of field methods in Entomology studies  Assignment #2 due (5 points).  Online discussion 1	1. Medical and Veterinary Entomology, 2 <sup>nd</sup> edition. 2009. Academic Press 2. Public Health Entomology, Jerome Goddard, CRC Press 3. Mosquito Ecology: Field Sampling methods, John B. Silver
4	28 May 2018	Applied Techniques in the study of Larval and Adult vectors of disease  Assignment #3 due (5 points). Online discussion 2	1. Mosquito Ecology: Field Sampling methods, John B. Silver 2. Public Health Entomology, Jerome Goddard, CRC Press 3. Assigned journal articles

Week	Date(s)	Topic(s) and Assignments	Suggested Readings
5	4 June 2018	Applied Techniques in the study of Larval and Adult vectors of disease  Assignment #4 due (5 points). Online discussion 3	1. Mosquito Ecology: Field Sampling methods, John B. Silver 2. Public Health Entomology, Jerome Goddard, CRC Press 3. Assigned journal articles
6	11 June 2018	Applied Techniques in the study of Larval and Adult vectors of disease  Assignment #5 due (5 points). Online discussion 3	1. Mosquito Ecology: Field Sampling methods, John B. Silver, 2. Public Health Entomology, Jerome Goddard, CRC Press 3. Assigned journal articles
7	18 June 2018	Summer Break	None
8	25 June 2018	Case studies in Entomology and vector Borne Diseases Online discussion 4	Assigned journal articles
9	3 July 2018	Case studies in Entomology and vector Borne Diseases Online discussion 5	Assigned journal articles
10	9 July 2018	Case studies in Entomology and vector Borne Diseases Online discussion 6	Assigned journal articles
11	16 July 2018	Case studies in Entomology and vector Borne Diseases Online discussion 7	Assigned journal articles
12	23 July 2018	Case studies in Entomology and vector Borne Diseases Online discussion 8	Assigned journal articles
13	30 July 2018	Case studies in Entomology and vector Borne Diseases Online discussion 9	Assigned journal articles
14	7 August 2018	Case studies in Entomology and vector Borne Diseases Online discussion 10	Assigned journal articles
15	14 August 2018	Exam	None

### Course Materials and Technology

There are no required texts for this course but the following textbooks are highly recommended

- 1) Public Health Entomology, Jerome Goddard, CRC Press
- 2) Vector and Rodent Borne Diseases in Europe and North America, Norman Gratz, Cambridge University Press
- 3) Medical and Veterinary Entomology, 2<sup>nd</sup> edition. 2009. Academic Press
- 4) Mosquito Ecology: Field Sampling methods
- 5) Journal articles assigned in the class

As this is an online class, access to a computer or tablet is required and you should make adequate arrangements to get access to either a computer or tablet before signing up for the class

For technical support for this class, please contact the UF Help Desk at:

- [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu)
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

## ACADEMIC REQUIREMENTS AND GRADING

### Assignments

Students are required to prepare 5 written assignments, which will be provided at the end of each lecture. Each of the assignments will require a written report of at least one and a half pages, double spaced, font size 12, Times New Roman, with at least three paragraphs, and a minimum of 5 references covering the background, current state of the science, and summarizing the evidence supporting your conclusion.

**Online discussions:** You will be required to lead a discussion topic and actively participate in each discussion session. Each week, when not leading the weekly discussion, you will be required to participate actively in the discussion topic by responding to at least 2 posts in the discussion board.

**Case studies:** For your case studies, you/team will be required to lead a class discussion (online) on the assigned topic and prepare an online video presentation to include the following areas i) Summary of assigned case based on at least 10 previously published studies, ii) the pertinent research questions relating to your assigned case, iii) Scientific hypotheses based on previous findings, iv) Empirical methods or experiments to address your case study. You will then prepare a written 5 page (double spaced) summary paper including critical analysis of background literature (including at least 10 previously published scientific papers), pertinent research questions, hypotheses, experimental methodology addressing the case study and expected outcomes. Teams have to pull their weight in the case study as the grading for the case study will be equal for all members in the team.

### Grading

Requirement	Due date	Points or % of final grade (% must sum to 100%)
Assignments	Outlined in Syllabus	25
Online discussions	Outlined in Syllabus	25
Case studies	Outlined in Syllabus	25
Exam	Outlined in Syllabus	25

Point system used (i.e., how do course points translate into letter grades).

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. 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. In addition, the Bachelor of Health Science Program does not use C- grades.

You must include the letter grade to grade point conversion table below. Letter grade to grade point conversions are fixed by UF and cannot be changed.

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>

### Exam Policy

Policy Related to Make up Exams or Other Work

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.

### 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>

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## STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

### Expectations Regarding Course Behavior

Students are expected to behave professionally throughout his course. Examples of professional behavior include completing required reading prior to class, participating actively in the discussion topic, and submitting assignments and discussion posts on time

**Communication Guidelines:** All communication regarding the course MUST be done via Canvas. Exceptions to this guideline is when E-learning is down or on maintenance, in which case you can send a message to my email address.

### 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://gradschool.ufl.edu/students/introduction.html>

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

### **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.

### **Inclusive Learning Environment *optional***

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida's Non-

Discrimination Policy, which reads, “The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans’ Readjustment Assistance Act.” If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs website: [www.multicultural.ufl.edu](http://www.multicultural.ufl.edu)