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**USF Sarasota-Manatee - New Undergraduate Course Proposal Form –  
ORIGINALLY SUBMITTED AS MCB 4241**

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**1. College/School Contact Information**

<u>Tracking Number</u> 101	<u>Date &amp; Time Submitted</u> 2015-01-21 16:20:31.0	
<u>Discipline</u> Biology	<u>College/School</u>	<u>Budget Account Number</u> 120901704
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**2. Course Information**

<u>Prefix</u> MCB	<u>Number</u> 4277	<u>Full Title</u> Insect-Borne Diseases and Global Health
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3.

Is the course title variable?	N
Is a permit required for registration?	N
Are the credit hours variable?	N

4.

<u>Credit Hours</u> 3	<u>Section Type</u> Class Lecture (Primarily)	<u>Grading Option</u> Regular
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Abbreviated Title (30 characters maximum)  
Arbo-Disease & Global Health

5. Prerequisites

BSC 2010 and BSC 2011

6. Corequisites

7. Co-Prerequisites

8. Course Description

This course examines the biology of medically important insects and the pathogens they transmit to humans. This course also discusses important socio-cultural-political factors in disease-endemic countries that maintain disease.

9. **Justification**

(This section is critical since the APC members will make their decision based on the information provided here. The information should be in the following outline form.)

A. Indicate how this course will strengthen the Undergraduate Program. Is this course necessary for accreditation or certification?

This course has been approved as a USFSM upper-level Pillars course in Community Engagement and Diversity. Adding this science-based course will diversify the offerings within this category. It is not needed for accreditation.

B. What specific area of knowledge is covered by this course which is not covered by courses currently listed?

Medical Entomology, Epidemiology, and Global Health

C. What is the need or demand for this course? (Indicate if this course is part of a required sequence in the major.) What other programs would this course service?

All students must take a USFSM upper-level Pillar course. This course will expand offerings in the Community Engagement and Diversity category. It will also offer another elective for STEM students.

D. Has this course been offered as Selected Topics/Experimental Topics course? If yes, what was the enrollment?

no

E. How frequently will the course be offered? What is the anticipated enrollment?

once a year

F. Do you plan to drop a course if this course is added? If so, what will be the effect on the program and on the students? (If dropping/deleting a course please complete the nonsubstantive course change form.)

no

G. What qualifications for training and/or experience are necessary to teach this course? (List minimum qualifications for the instructor.)

a master's degree is required with 18 graduate credit hours in biology

## 10. Other Course Information

A. Objectives

1. Develop knowledge of the biology of medically important insects, life cycles of transmitted pathogens, disease symptoms and epidemiology. 2. Enhance critical thinking skills and ability to communicate effectively with peers and the general

public. 3. Develop understanding of diverse global conditions that enable insect-borne diseases and/or impede disease control. 4. Give students an opportunity to apply biological knowledge to global health issues and in a way that engages the community.

## B. Learning Outcomes

"Demonstrate knowledge of insect vectors and principles of vector-borne epidemiology." Compare and contrast life-history strategies used by major vector species of medical and veterinary importance. "Critically analyze, via research articles and other media, the diverse cultural determinants and trends underlying major disease outbreaks in affected countries, toward the goal of defining the inter-relationships between socio-cultural-economic development and health." Critically analyze, via research articles and other media, the likelihood of new approaches in solving humanities-vector-borne disease challenges." Communicate effectively with peers and the general public. " Demonstrate the capacity to engage the local community in issues of global health.

## C. Major Topics

1. Biology of insects as vectors of disease-causing agents, life cycles of transmitted pathogens, disease symptoms, and epidemiology: 2. Student-led discussion about global health issues in which students analyze and then present an overview of social, cultural, political factors involved in particular disease-endemic countries. 3. Student-led enterprise will stem from their discussion topic and involve: a. An in-depth analysis of mosquito-borne, global health challenges in particular countries, culminating in a written policy brief. b. Presentations of analyses and policy regarding mosquito-borne global health challenges in countries; c. A community initiative organized by MCB 493X students who will design a global-health teaching module to take to a local high school. MCB 493X students will work with high school students and explain the diversity of cultural determinants underlying disease burden.

## D. Examples of Course Textbooks and Course Readings

1. New Guinea Tapeworms and Jewish Grandmothers Tales of Parasites and People (1981). Robert S. Desowitz, ISBN: 9780393304268 2. The Malaria Capers More Tales of Parasites and People, Research and Reality (1991). Robert S. Desowitz, ISBN: 9780393310085 3. Mosquito: A Natural History of our Most Persistent and Deadly Foe (2001). Andrew Spielman and Michael DAntonio, ISBN: 978078686781

## 11. Syllabus

Please submit an electronic copy of your syllabus to Rhonda Moraca, [moraca@sar.usf.edu](mailto:moraca@sar.usf.edu).

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