

Cover Sheet: Request 11905

GEO4XXX Geography of Vector-Borne Diseases

Info

Process	Course New Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Liang Mao liangmao@ufl.edu
Created	10/9/2017 3:14:41 PM
Updated	12/6/2017 10:59:31 AM
Description of request	Introduces the spatial epidemiology of vector-borne diseases (VBDs) and geospatial methods for monitoring, mapping and modeling them. Provides hands-on experiences for mapping and modeling risk of VBDs via GIS-based labs.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CLAS - Geography 011609000	Liang Mao		10/16/2017
uccconsult_binder.pdf					10/9/2017
College	Recycled	CLAS - College of Liberal Arts and Sciences	Liang Mao	conditionally approved by the CCC. Please make the following changes: (1) write course description using catalog style ("Examines the spatial...them. Provides hands-on experiences....in GIS-based labs"); (2) since cell phones are used in the UF emergency notification system, you should instruct students to turn them to vibrate rather than off; (3) include the C- grade notification (A grade of C- is not a qualifying grade for major, minor, Gen Ed, or College Basic distribution credit. For further information on UF's Grading Policy, see: https://catalog.ufl.edu/ugrad/cu http://www.isis.ufl.edu/minusgra	11/27/2017
No document changes					
Department	Approved	CLAS - Geography 011609000	Liang Mao		11/29/2017
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Liang Mao		12/6/2017
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			12/6/2017
No document changes					

Step	Status	Group	User	Comment	Updated
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|New for request 11905

Info

Request: GEO4XXX Geography of Vector-Borne Diseases

Description of request: Introduces the spatial epidemiology of vector-borne diseases (VBDs) and geospatial methods for monitoring, mapping and modeling them. Provides hands-on experiences for mapping and modeling risk of VBDs via GIS-based labs.

Submitter: Liang Mao liangmao@ufl.edu

Created: 12/6/2017 10:43:58 AM

Form version: 3

Responses

Recommended PrefixGEO

Course Level 4

Number XXX

Category of Instruction Advanced

Lab Code C

Course TitleGeography of Vector-borne Diseases

Transcript TitleGEOG VECTORED DISEASE

Degree TypeBaccalaureate

Delivery Method(s)4136On-Campus

Co-ListingNo

Effective Term Earliest Available

Effective YearEarliest Available

Rotating Topic?No

Repeatable Credit?No

Amount of Credit3

S/U Only?No

Contact Type Regularly Scheduled

Weekly Contact Hours 3

Course Description Introduces the spatial epidemiology of vector-borne diseases (VBDs) and geospatial methods for monitoring, mapping and modeling them. Provides hands-on experiences for mapping and modeling risk of VBDs via GIS-based labs.

Prerequisites GEO3452 or GIS3043 or permission of the instructor

Co-requisites None

Rationale and Placement in Curriculum Vector-borne diseases (VBDs) are critical topics in public and global health. There is a lack of courses for our Medical Geography in Global Health (MGGH) majors to learn principles of VBDs and geospatial analytic methods to address VBD problems.

This course will be an advanced level course of medical geography in the current curriculum. It benefits students who have taken GEO3452 Intro to Medical Geography, and want to deep their learning in the subfield regarding VBDs. It can also serve for an upper elective course for our MGGH major, minor and certificate.

Course Objectives Successful students who successfully complete this course will be able to:

- 1) Describe the geography of vector-borne diseases across the world;
- 2) Explain geographically related factors that affect transmission of VBDs;
- 2) Perform geospatial analysis on VBD data to predict and map health risks.

Course Textbook(s) and/or Other Assigned ReadingThere is no required text for this course. Most readings will be posted on E-learning or located directly on an internet site. There will be assigned

readings for each week that will be used to supplement the lectures, for instance:

Moffett, Alexander, et al. "A global public database of disease vector and reservoir distributions." *PLoS Neglected Tropical Diseases* 3.3 (2009): e378.

Benedict, Mark Q., et al. "Spread of the tiger: global risk of invasion by the mosquito *Aedes albopictus*." *Vector-borne and zoonotic Diseases* 7.1 (2007): 76-85.

Hay, S. I., et al. "Global environmental data for mapping infectious disease distribution." *Advances in parasitology* 62 (2006): 37-77.

Tatem, A. J., et al. "Air travel and vector-borne disease movement." *Parasitology* 139.14 (2012): 1816-1830.

Alonso, David, Menno J. Bouma, and Mercedes Pascual. "Epidemic malaria and warmer temperatures in recent decades in an East African highland." *Proceedings of the Royal Society of London B: Biological Sciences* 278.1712 (2011): 1661-1669.

Guerra, Carlos A., et al. "Assembling a global database of malaria parasite prevalence for the Malaria Atlas Project." *Malaria journal* 6.1 (2007): 17.

Moonen, Bruno, et al. "A framework for assessing the feasibility of malaria elimination." *Malaria journal* 9.1 (2010): 322.

Tatem, Andrew J., Simon I. Hay, and David J. Rogers. "Global traffic and disease vector dispersal." *Proceedings of the National Academy of Sciences* 103.16 (2006): 6242-6247.

Stoddard, Steven T., et al. "The role of human movement in the transmission of vector-borne pathogens." *PLoS neglected tropical diseases* 3.7 (2009): e481.

Tatem, Andrew J., et al. "The effects of spatial population dataset choice on estimates of population at risk of disease." *Population Health Metrics* 9.1 (2011): 4.

Craig, Marlies H., et al. "Developing a spatial-statistical model and map of historical malaria prevalence in Botswana using a staged variable selection procedure." *International Journal of Health Geographics* 6.1 (2007): 44.

Rogers, David J., et al. "Satellite imagery in the study and forecast of malaria." *Nature* 415.6872 (2002): 710-715.

Weekly Schedule of Topics Week 1 Course intro

Week 2 Intro to VBDs; GIS Lab: Dealing with spatial data (1)

Week 3 History of VBD-human interactions; GIS Lab: Dealing with spatial data (2)

Week 4 spatial distributions of VBDs

Week 5 Measuring VBDs: Malaria; GIS Lab: Measuring malaria

Week 6 Mapping VBDs: Malaria; GIS Lab: Mapping malaria

Week 7 Insect vectors of disease

Week 8 Mapping insect vectors; GIS Lab: Mapping vector distributions (1)

Week 9 Climate change and VBDs; GIS Lab: Mapping vector distributions (2)

Week 10 Controlling and eliminating VBDs; GIS Lab: Mapping vector distributions (3)

Week 11 Quantifying populations at risk & burdens; GIS Lab: Quantifying populations at risk

Week 12 Transport networks and VBD spread

Week 13 Spatial Modelling for VBDs; GIS Lab: Global traffic and disease vector dispersal

Week 14 Land use and land cover change and VBDs

Links and Policies Attendance/Participation: Attendance is mandatory for all students, and is the easiest way to do well in this class. To encourage uninterrupted participation in class, it is expected that cell phone and pagers be turned to vibrate prior to entering the classroom.

Absences may be excused if they are documentable. For expected absences, students must provide at least two business days' advance notice of the absence. Acceptable reasons for absences include but are not limited to personal or family illness or emergency, religious holidays, official university events, etc. Oversleeping, missing the bus, etc., are not excusable excuses. Students may be required to provide written documentation in order to receive an excused absence.

If absence is excused, students are responsible for material missed during any class session (lab or lecture). S/he should obtain notes from a peer for the material covered in class. If the absence is unexcused, assignments not turned in at the assigned time will be considered late and a penalty applied.

Policy on make-up work: Students are allowed to make up assignments ONLY as the results of official university events, religious holidays, illness, or other unanticipated circumstances warranting a medical excuse and resulting in the student missing a homework or exam. Documentation from a health care provider is required. Assignments and exams missed for any other reason will receive a grade of zero.

UF's honesty policy: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students 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." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Accommodations for Students with Disabilities: Students requiring accommodations must first register with the Dean of Students' Office. The Dean of Students' Office will provide documentation to the student, who must then provide this documentation to the faculty member when requesting accommodation. If students experience personal, academic, and social issues, please consider either of the following assistance:

University Counseling Services (P301 Peabody Hall – 392-1575)
<http://www.counsel.ufl.edu/base.asp?include=counselingServices.inc>

Student Mental Health Services in the Student Health Care Center (Room 245, Infirmary Bldg. – 392-1171) <http://www.health.ufl.edu/shcc>

Instructor Evaluation Policy: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online 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>.

Grading Scheme The laboratories comprise 90% of your final grade, and class attendance comprise 10%. Nine lab assignments will be set, with each 10 points. Labs will be discussed in the lectures also and there will be a close association between the material covered in the lecture and lab periods. Each lab report must be typed within the document provided.

Point Breakdown:

Labs (10 per lab): 90
Attendance: 10

A letter grade will be assigned based on following scale:

A 90-100% B+ 88-89.9% B 80-87.9% C+ 78-79.9% C 70-77.9%
D+ 68-69.9% D 60-67.9% E Less than 60%

(A grade of C- is not a qualifying grade for major, minor, Gen Ed, or College Basic distribution credit.

For further information on UF's Grading Policy, see:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>;

<http://www.isis.ufl.edu/minusgrades.html>).

Instructor(s) Sadie Ryan

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	

9 October 2017

Dear Members of the University Curriculum Committee,

This letter is intended to support the approval of proposed course 'Geography of Vector-borne Diseases' for both undergraduate and graduate levels in the Department of Geography. This course teaches spatial epidemiology of vector-borne diseases (VBDs) with a focus on geospatial methods for monitoring, mapping and modeling them.

I currently teach Entomology course 'Ecology of Vector-borne Disease' (ENY 4202/6206), offered each fall semester at UF. I have compared the syllabus for 'Geography of Vector-borne Diseases' with that of ENY 4202/6206 and feel that my course and the proposed course in Geography can be complementary to each other, with minimal overlap. Although some lectures may have some similarity they do not repeat the same materials, and the focus is entirely different.

Thank you,



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