Cover Sheet: Request 10669

GEO4XXX Applications in GIS for Zoonoses and Disease Ecology

Info

Process	Course|New|Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Jason Blackburn jkblackburn@ufl.edu
Created	1/8/2016 12:11:25 PM
Updated	11/10/2019 7:09:50 PM
Description of request	Focus is on GIS applications in spatial analysis and ecology to address common research issues related to zoonotic diseases (those affecting animals and humans).

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CLAS - Geography 011609000	Jane Southworth		1/8/2016
No document changes					
College	Recycled	CLAS - College of Liberal Arts and Sciences	David Pharies	(1) You list a 6000-level prerequisite for a 4000-level course, (2) description should be written in catalog language and be only descriptive of content ("Focuses on GIS applications…."), (3) remove all references to the graduate course from this request, (4) grading scheme adds up to 525, (5) participation grade percentage is excessive – no indication as to how students can earn a high grade in this area, (6) are there 8 lab exercises or 10?, (6) Is this course going to be taught jointly with a graduate section? If so, see https://approval.ufl.edu/policies/policies/.	11/2/2017
ucc_consult_review_form-Blackburn.pdf Modifications.pdf					1/21/2016 9/1/2017
Department	Approved	CLAS - Geography 011609000	Jane Southworth		4/10/2018
No document changes					
College	Recycled	CLAS - College of Liberal Arts and Sciences	Joseph Spillane	The College Committee recycles this request: 1) most of the November issues raised have not been addressed on the request form itself; 2) please explain the difference between the graduate and undergraduate level versions of the course.	5/6/2018
No document changes					
Department	Approved	CLAS - Geography 011609000	Jane Southworth		11/10/2018

Original file: Cover sheet.pdf

Step	Status	Group	User	Comment	Updated
No document changes					
College	Recycled	CLAS - College of Liberal Arts and Sciences	Joseph Spillane	The College Curriculum Committee recycles this request, with the following changes needed: 1) replace the objectives on the form with the excellent objectives found on the syllabus; 2) add the modifications in the attachment to the "rationale" section of the form; 3) remove the first two sentences of the course description; 4) add a grading scale, in addition to the grading scheme itself	12/2/2018
No document changes					
Department	Approved	CLAS - Geography 011609000	Jane Southworth		3/14/2019
No document changes					
College	Conditionall Approved	CLAS - College of Liberal Arts and Sciences	Joseph Spillane	The College Curriculum Committee conditionally approves, with the following: 1) change the assignment amounts, lab exercise should be 8X25 instead of 10X25, and change total points to 475	3/27/2019
No document changes					
Department	Approved	CLAS - Geography 011609000	Jane Southworth		4/12/2019
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Joseph Spillane		4/12/2019
No document changes					
University Curriculum Committee	Recycled	PV - University Curriculum Committee (UCC)	Casey Griffith	Previous college curriculum committee comments have not been addressed; prereqs, grading scale (incorrect total), participation percentage, etc.	4/30/2019
No document changes					
College	Recycled	CLAS - College of Liberal Arts and Sciences	Joseph Spillane	Please see UCC comments from April	7/22/2019
No document changes					
Department	Approved	CLAS - Geography 011609000	Jane Southworth		10/8/2019
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Joseph Spillane		10/14/2019
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			10/14/2019
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 10669

Info

Request: GEO4XXX Applications in GIS for Zoonoses and Disease Ecology
Description of request: Focus is on GIS applications in spatial analysis and ecology to address common research issues related to zoonotic diseases (those affecting animals and humans).
Submitter: Jason Blackburn jkblackburn@ufl.edu
Created: 10/8/2019 1:07:19 PM
Form version: 6

Responses

Recommended Prefix GEO
Course Level 4
Number XXX
Lab Code C
Course Title Applications in GIS for Zoonoses and Disease Ecology
Transcript Title App GIS for Dis Eco
Effective Term Spring
Effective Year Earliest Available
Rotating Topic? No
Amount of Credit 3

Repeatable Credit? No

S/U Only? No
Contact Type Regularly Scheduled
Degree Type Baccalaureate

Weekly Contact Hours 3
Category of Instruction Advanced
Delivery Method(s) On-Campus
Course Description Focus is on GIS applications in spatial analysis and ecology to address common research issues related to zoonotic diseases (those affecting animals and humans).
Prerequisites GIS 3043 or equivalent or consent of instructor or Students from public health backgrounds can inquire about course equivalents
Co-requisites NONE
Rationale and Placement in Curriculum This is a 3 credit-hour course focused on the application of exploratory spatial data analysis, local spatial statistics, and ecological modeling to disease ecology with an emphasis on zoonoses - those diseases that affect both animals and humans. Throughout this course we will explore the use of geographic information systems, spatial statistics, and ecological models (e.g. logistic regression and ecological niche models) to in examining disease distributions, frequency, and environmental conditions. These explorations are completed using software available in the computer lab or UF Apps (many apps are open source and can be downloaded). We will complete lab assignments using GIS software or code. We will focus on zoonotic systems. Students will have an opportunity to learn and apply several popular GIS and spatial statistical techniques to disease and climate data sets. These will include the use of Anselin's local Moran's I, Getis and Ord's G statistics, and the spatial scan statistic to explore spatial and spatio-temporal patterns of spatial data. Students will also explore ecological niche theory and its application to disease modeling, such as genetic algorithms and logistic regression. The course is setup to allow students the opportunity work with data sets of their choice for a final project, and graduate students are encouraged to use thesis/dissertation related data. The goal of the course is to introduce students to the many and varied opportunities for GIS and spatial analysis, with an emphasis of ecological processes and environmental relationships between diseases and their hosts (and vectors). Students from across campus are encouraged to enroll to foster cross training that will bridge the skills of geographers, epidemiologists, modelers, and public health.
Course Objectives 1) Define diseases and relate spatial processes to disease outbreak dynamics
2) Map disease and map statistical outputs (graphically and with maps)
3) Perform basic R functions for statistics and graphing in epidemiology

4) Map and manage environmental data (e.g. climatic data)
5) Employ global measures of spatial autocorrelation
6) Employ local measures of local spatial autocorrelation
7) Understand the basic theory and application of ecological niche modeling
8) Compose GIS related methodology and results sections for manuscripts using laboratory write-ups a practice
9) Publicly present GIS-related data and analyses to scientific audiences, particularly non-GIS or non-epidemiology audiences
10) Evaluate and train a group on the basics of spatial statistical techniques not taught by the instructor

Course Textbook(s) and/or Other Assigned Reading Stevenson et al. (2008). Spatial Analysis in Epidemiology. Oxford Press. 208 pages.
Weekly Schedule of Topics 1 Introduction to GIS epidemiology and disease ecology; Basic spatial statistics: spatial means, standard distance; bandwidths Text: Ch 1 & Ch 2
Assigned: Thrusfield ch 2 – 4* 1
2 Mapping cases: points- density; polygons- choropleth maps; bandwidth estimation techniques; Kernel Density Estimation Ch. 3; Fotheringham et al. 2003; 2 1
3 NO CLASS Martin Luther King, Jr Day
4 Global measures of spatial autocorrelation: Ripley's K plots; Ch 4; O'Brien et al.
3 2
5 From Global to local -finding clusters: Point Pattern Analysis and Aggregation – Defining local (ANNI and distance based) Ch 5; 4 3
6 Getis Gi*(d) and hotspot analysis Ch 5; Getis et al. 2003; 5 4
7 LISA with Local Moran's I and GeoDa Ch 5; Anselin 1995; 6 5
8 Bayes empirical smoothing with GeoDa Abdullayev et al. 2012; Ch 6; Hu et al. 2010;
7 6
9 NO CLASS SPRING BREAK
10 SaTScan and spatio-temporal clusters – integrating time Ch 5; Kulldorff et al.; Root et al. 8 7
11 Infected here, infected there: analyzing spatio-temporal animal movement data; Thinking about programming in R Lyons et al. 2013; Bagamian et al al. 2013; Blackburn 2010
9 8
12 Infected here, not infected there: linking animal movements to environmental sources of disease; modeling with R Blackburn et al. 2014; Mullins et al. In Review (TBP*)
10 9
13 Ecological modeling 1 - linking disease with environment using R; preparing data and using basic R code in R Studio Ch. 7; Blackburn 2010 11 10
14 Ecological modeling 2 - linking disease with environment using the Rattle Package in R
Ch 7, 8
15 Final presentations & DRAFT 1 TERM PAPERS DUE (MUST DO)
11
16 Final draft of term paper due electronically
Grading Scheme This course will use a variety of methods to evaluate student performance.
(8) Laboratory practical exercises with short lab write-ups (25 pts each x 10)
(1) First draft written paper on a GIS project of the student's choice (with instructor approval) (60 pts)
(1) Peer review of classmate's paper following journal rules (20 pts)
(1) Revision of GIS project paper based on peer review (20 pts)
(1) Presentation on the final paper (5 minute overview of a poster presentation) (75 pts)
Student participation in class (100 pts)
Total points in class = 550*

*Undergraduate students will develop a poster of their final project and have more emphasis placed on their initial paper draft than graduate students. Undergraduate students will have the opportunity to directly with data from the instructor to develop final projects. Graduate students will be require to develop a more in-depth analytical component to the final project and perform a 15-minute discussion on their final project (conference style).

*Graduate students will also have an additional assignment and rubric to teach a technique, or variation on a technique, not taught during normal lectures.

This course will employ the A – E grading scale, with 95>A, 89-94 A-, 86-88 B+, 83-85 B, 79-82 B-1,

76-78 C+, 73-75 C, 72-69 C-, 68-66 D+, 63-65 D, 59-62 D-, <59 E,.
http://www.isis.ufl.edu/minusgrades.html
Instructor(s) Jason K. Blackburn

GIS 49XX: Applications in GIS for Zoonoses and Disease Ecology

Instructor: Dr. Jason Blackburn

Contact: 392-294-7501; jkblackburn@ufl.edu (email is best); Skype: jblack6

Office: Geography 3124
Office hours: Mondays 130 – 330 pm & *appts via email
**appts can be made in Geography or Emerging Pathogens Institute (if meeting at EPI, you MUST have a photo ID to get into the building)*

Class meetings: Monday 3-5 period (935 am – 1235 pm)
Meeting location: Room 3018 Turlington GIS Laboratory**
***please expect to meet for the entire class period.*

Background

This is a 3 credit-hour course focused on the application of exploratory spatial data analysis, local spatial statistics, and ecological modeling to disease ecology with an emphasis on zoonoses - those diseases that affect both animals and humans. Throughout this course we will explore the use of geographic information systems, spatial statistics, and ecological models (e.g. logistic regression and ecological niche models) to in examining disease distributions, frequency, and environmental conditions. These explorations are completed using software available in the computer lab or UF Apps (many apps are open source and can be downloaded). We will complete lab assignments using GIS software or code. We will focus on zoonotic systems. Students will have an opportunity to learn and apply several popular GIS and spatial statistical techniques to disease and climate data sets. These will include the use of Anselin's local Moran's *I*, Getis and Ord's G statistics, and the spatial scan statistic to explore spatial and spatio-temporal patterns of spatial data. Students will also explore ecological niche theory and its application to disease modeling, such as genetic algorithms and logistic regression. The course is setup to allow students the opportunity work with data sets of their choice for a final project, and graduate students are encouraged to use thesis/dissertation related data. The goal of the course is to introduce students to the many and varied opportunities for GIS and spatial analysis, with an emphasis of ecological processes and environmental relationships between diseases and their hosts (and vectors). Students from across campus are encouraged to enroll to foster cross training that will bridge the skills of geographers, epidemiologists, modelers, and public health.

In this course, students will be expected to (course objectives):

1) Define diseases and relate spatial processes to disease outbreak dynamics

2) Map disease and map statistical outputs (graphically and with maps)
3) Perform basic R functions for statistics and graphing in epidemiology
4) Map and manage environmental data (e.g. climatic data)
5) Employ global measures of spatial autocorrelation
6) Employ local measures of local spatial autocorrelation
7) Understand the basic theory and application of ecological niche modeling
8) Compose GIS related methodology and results sections for manuscripts using laboratory write-ups a practice
9) Publicly present GIS-related data and analyses to scientific audiences, particularly non-GIS or non-epidemiology audiences
10) Evaluate and train a group on the basics of spatial statistical techniques not taught by the instructor

Prerequisite

Students should have had an undergraduate course equivalent to GIS 3043 or GIS 3420C (GIS Models for Public Health).

Student Evaluation

This course will use a variety of methods to evaluate student performance. For all graded work in the course, *rubrics are provided ahead of grading through the online system (currently Canvas)*.

(8) Laboratory practical GIS exercises with short lab write-ups (25 pts each x 8 = 200 points)

(12) Quizzes on course content knowledge (10 pts each x 12 = 120 pts)

(1) First draft of written paper on a GIS project of the student's choice (with instructor approval) (40 pts)

(1) Peer review of classmate's paper following a specific (provided) rubric (30 pts)

(1) Revision of GIS project paper based on peer review (30 pts)

(1) Presentation on the final paper (15 minutes with PowerPoint) (75 pts)

Student participation in class specifically for participation in group discussions (30 pts), attendance to lectures/lab (20 pts), and collegiality and timeliness of peer review efforts for the final project (30 pts). There is a rubric provided in Canvas for participation grading. (80 pts)

Total points in class = 575 **The graduate version of this course has an additional 100 points and a teaching requirement

Grading Policy

This course will employ the A – E grading scale, with 95≥A, 89-94 A-, 86-88 B+, 83-85 B, 79-82 B-1, 76-78 C+, 73-75 C, 72-69 C-, 68-66 D+, 63-65 D, 59-62 D-, <59 E,. http://www.isis.ufl.edu/minusgrades.html

Text

This course has a reading list updated regularly and PDF of all readings are provided ahead of time by the instructor.

Brunsdon, Chris, and Lex Comber, *An Introduction to R for Spatial Analysis and Mapping* (Sage, 2015) is a required text for this course. It is available as an eTextbook.

As an optional reference text, look at Stevenson et al. (2008). *Spatial Analysis in Epidemiology*. Oxford Press. 208 pages.

Class attendance, make-up exams, and late work

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Students with disabilities

Students requesting classroom accommodation 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 Instructor when requesting accommodation.

For more information visit: http://www.dso.ufl.edu/drc/

UF grading policies

Please see the UF Registrar's grading policies for current guidelines not discussed in class.

http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html

Honor Code

Students are expected to abide by the UF honor code and ethical conduct, listed on the following website: http://www.dso.ufl.edu/stg/

Other Concerns

Please be aware that the University Counseling Center (392-1575), the Student Health Care Center (392-1161) and Student Mental Health (392-1171) can assist students as they work through personal, academic and social issues. Please take care of your health and watch for swine flu symptoms. Provide advance notice and obtain documentation for excused absences where possible.

WEEK	Topic	Readings	Lab	Lab due
1	Techniques and software: Programming geospatial data in R, using Q-GIS, using ArcGIS	TBD		
2	Introduction to GIS epidemiology and disease ecology; Basic spatial statistics: spatial means, standard distance; bandwidths	Assigned: Thrusfield ch 2 – 4*	1	
3	Mapping cases: points- density; polygons- choropleth maps; bandwidth estimation techniques;	Fotheringham et al. 2003;		
4	Kernel Density Estimation	Blackburn et al. 2014; Nelson and Boots 2008	**2**	**1**
5	Global measures of spatial autocorrelation: Ripley's K plots; Average Nearest Neighbor Index	O'Brien et al.	**3**	**2**
6	From Global to local -finding clusters: Point Pattern Analysis and Aggregation – *Defining local;* Getis Gi*(d) and hotspot analysis	Getis et al. 2003;	**4**	**3**
7	LISA with Local Moran's I and GeoDa;	Anselin 1995;		**4**
8	Bayes empirical smoothing with GeoDa	Anselin 1995; Abdullayev et al. 2012; Hu et al. 2010;	**5**	
9	SaTScan and space-only clusters with point pattern analysis	Kulldorff et al.; Root et al.	**6**	**5**
10	SatScan and space-time clustering	Kulldorff et al; Blackburn et al. 2015	**6**	**5**
11	Infected here, infected there: analyzing spatio-temporal animal movement data; Thinking about programming in R	Lyons et al. 2013; Bagamian et al al. 2013; Blackburn 2010	**7**	
12	Infected here, not infected there: linking animal movements to environmental sources of disease; modeling with R	Blackburn et al. 2014; Mullins et al. In Review (TBP*)		
13	Ecological modeling 1 - linking disease with environment using R; preparing data and using basic R code in R Studio	Blackburn 2010	**8**	**7**
14	Ecological modeling 2 - linking disease with environment using the Rattle Package in R; Draft 1 of term paper due	TBD		**8**
15	***Final presentations & Final draft of term paper due electronically***			

GIS 69XX: Applications in GIS for Zoonoses and Disease Ecology

Instructor: Dr. Jason Blackburn

Contact: 392-294-7501; jkblackburn@ufl.edu (email is best); Skype: jblack6

Office: Geography 3124
Office hours: Mondays 130 – 330 pm & *appts via email
**appts can be made in Geography or Emerging Pathogens Institute (if meeting at EPI, you MUST have a photo ID to get into the building)*

Class meetings: Monday 3-5 period (935 am – 1235 pm)
Meeting location: Room 3018 Turlington GIS Laboratory**
***please expect to meet for the entire class period.*

Background

This is a 3 credit-hour course focused on the application of exploratory spatial data analysis, local spatial statistics, and ecological modeling to disease ecology with an emphasis on zoonoses - those diseases that affect both animals and humans. Throughout this course we will explore the use of geographic information systems, spatial statistics, and ecological models (e.g. logistic regression and ecological niche models) to in examining disease distributions, frequency, and environmental conditions. These explorations are completed using software available in the computer lab or UF Apps (many apps are open source and can be downloaded). We will complete lab assignments using GIS software or code. We will focus on zoonotic systems. Students will have an opportunity to learn and apply several popular GIS and spatial statistical techniques to disease and climate data sets. These will include the use of Anselin's local Moran's *I*, Getis and Ord's G statistics, and the spatial scan statistic to explore spatial and spatio-temporal patterns of spatial data. Students will also explore ecological niche theory and its application to disease modeling, such as genetic algorithms and logistic regression. The course is setup to allow students the opportunity work with data sets of their choice for a final project, and graduate students are encouraged to use thesis/dissertation related data. The goal of the course is to introduce students to the many and varied opportunities for GIS and spatial analysis, with an emphasis of ecological processes and environmental relationships between diseases and their hosts (and vectors). Students from across campus are encouraged to enroll to foster cross training that will bridge the skills of geographers, epidemiologists, modelers, and public health.

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1) Define diseases and relate spatial processes to disease outbreak dynamics

2) Map disease and map statistical outputs (graphically and with maps)
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4) Map and manage environmental data (e.g. climatic data)
5) Employ global measures of spatial autocorrelation
6) Employ local measures of local spatial autocorrelation
7) Understand the basic theory and application of ecological niche modeling
8) Compose GIS related methodology and results sections for manuscripts using laboratory write-ups a practice
9) Publicly present GIS-related data and analyses to scientific audiences, particularly non-GIS or non-epidemiology audiences
10) Evaluate and train a group on the basics of spatial statistical techniques not taught by the instructor

Prerequisite

Students should have had an undergraduate course equivalent to GIS 3043 or GIS 3xxx (GIS Models for Public Health) and Geography 6161C or equivalent.

Student Evaluation

This course will use a variety of methods to evaluate student performance. For all graded work in the course, *rubrics are provided ahead of grading through the online system (currently Canvas)*.

(8) Laboratory practical GIS exercises with short lab write-ups (25 pts each x 8 = 200 points)

(12) Quizzes on course content knowledge (10 pts each x 12 = 120 pts)

(1) First draft of written paper on a GIS project of the student's choice (with instructor approval) (40 pts)

(1) Peer review of classmate's paper following a specific (provided) rubric (30 pts)

(1) Revision of GIS project paper based on peer review (30 pts)

(1) Presentation on the final paper (15 minutes with PowerPoint) (75 pts)

(1) Review of a technique not taught by the instructor. Each graduate student will provide an overview presentation (10-15 minutes) on a technique and appropriate readings describing the test (1x reading) and at least 1x paper applying the technique. (100 pts) **Undergraduates do not have this course requirement or these points*

Student participation in class accounting for participation in discussions, attendance, and collegiality and timeliness of peer review efforts. There is a rubric provided for participation grading. (100 pts)

Total points in class = 725

Grading Policy

This course will employ the A – E grading scale, with 95≥A, 89-94 A-, 86-88 B+, 83-85 B, 79-82 B-1, 76-78 C+, 73-75 C, 72-69 C-, 68-66 D+, 63-65 D, 59-62 D-, <59 E,. http://www.isis.ufl.edu/minusgrades.html

Text

This course has a reading list updated regularly and PDF of all readings are provided ahead of time by the instructor.

Brunsdon, Chris, and Lex Comber, *An Introduction to R for Spatial Analysis and Mapping* (Sage, 2015) is a required text for this course. It is available as an eTextbook.

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WEEK	Topic	Readings	Lab	Lab due
1	Techniques and software: Programming geospatial data in R, using Q-GIS, using ArcGIS	TBD		
2	Introduction to GIS epidemiology and disease ecology; Basic spatial statistics: spatial means, standard distance; bandwidths	Assigned: Thrusfield ch 2 – 4*	1	
3	Mapping cases: points- density; polygons- choropleth maps; bandwidth estimation techniques;	Fotheringham et al. 2003;		
4	Kernel Density Estimation	Blackburn et al. 2014; Nelson and Boots 2008	**2**	**1**
5	Global measures of spatial autocorrelation: Ripley's K plots; Average Nearest Neighbor Index	O'Brien et al.	**3**	**2**
6	From Global to local -finding clusters: Point Pattern Analysis and Aggregation – *Defining local;* Getis Gi*(d) and hotspot analysis	Getis et al. 2003;	**4**	**3**
7	LISA with Local Moran's I and GeoDa;	Anselin 1995;		**4**
8	Bayes empirical smoothing with GeoDa	Anselin 1995; Abdullayev et al. 2012; Hu et al. 2010;	**5**	
9	SaTScan and space-only clusters with point pattern analysis	Kulldorff et al.; Root et al.	**6**	**5**
10	SatScan and space-time clustering	Kulldorff et al; Blackburn et al. 2015	**6**	**5**
11	Infected here, infected there: analyzing spatio-temporal animal movement data; Thinking about programming in R	Lyons et al. 2013; Bagamian et al al. 2013; Blackburn 2010	**7**	
12	Infected here, not infected there: linking animal movements to environmental sources of disease; modeling with R	Blackburn et al. 2014; Mullins et al. In Review (TBP*)		
13	Ecological modeling 1 - linking disease with environment using R; preparing data and using basic R code in R Studio	Blackburn 2010	**8**	**7**
14	Ecological modeling 2 - linking disease with environment using the Rattle Package in R; Draft 1 of term paper due	TBD		**8**
15	***Final presentations & Final draft of term paper due electronically***			

Modifications to *DIFFERENTIATE* Work Load and Grading in GIS 49XX: and GIS 69XX: Applications in GIS for Zoonoses and Disease Ecology

Instructor: Dr. Jason Blackburn

Following feedback from the CCC and Dean Pharies, I have overhauled the syllabi and requirements for both course to clearly differentiate workload, grading, and expected learning objectives for undergraduate and graduate students in this dual enrollment course. The course syllabi provide clear differences in expected learning outcomes and grading/work load in each. This course provides specific rubrics for every graded assignment or performance assessment. Undergraduate and graduate rubrics are publicized on the Canvas site for each assignment and grading calculations are separate by UG or G enrollment. Most notably, graduate students must take on a larger final project and also take on a teaching assignment that graduate students do not have. Graduate students will present on important statistical techniques in medical geography/GIS that are not presented in class. This will give them teaching/training opportunities not yet necessary to assess undergraduate students in a course like this.

I have also updated the grading sections of each syllabus separately and clarified the prerequisites for each student group.

UF UNIVERSITY of FLORIDA

UCC: External Consultations

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

Department	Name and Title
Emerging Pathogens Institute	J. Glenn Morris, Jr., MD, MPHTM, Professor and Director
Phone Number	**E-mail**
352 273-7526	jgmorris@epi.ufl.edu

Comments

The proposed course is an excellent one. While EPI does not have a teaching program, we do have a number of graduate (and undergraduate) students involved in research within the Institute; for these students, this would be an extremely valuable course. As EPI Director, I would strongly support creation of this course. It is clearly a needed course, and does not conflict with any courses of which I am aware.

Department	Name and Title
Epidemiology	Catherine Striley, Assistant Professor, Director MS in Epidemolc
Phone Number	**E-mail**
352-273-5359	cstriley@ufl.edu

Comments

We support this course and will recommend our students participate if appropriate for their aims.

Department	Name and Title
Phone Number	**E-mail**

Comments