

Nikou, Roshan

From: Graduate.Council.Web.Site@www.uky.edu
Sent: Wednesday, December 03, 2008 10:24 AM
To: Nikou, Roshan
Cc: Price, Cleo
Subject: Investigator Report

AnyForm User: www.uky.edu
AnyForm Document: <http://www.research.uky.edu/gs/GCInvestigatorReport.html>
AnyForm Server: www.uky.edu (/www/htdocs/AnyFormTurbo/AnyForm.php)
Client Address: 76.177.13.44

College/Department/Unit: = BST 740
Category:_ = New
Date_for_Council_Review: = 12/4/2008
Investigator: = Kert Viele
E-mail_Address = viele@uky.edu
1__Modifications: = None, course seems straightforward to me. I recommend approval.
2__Considerations: =
3__Contacts: = Marta Mendiondo general discussion
4__Additional_Information: =

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AnyForm/PHP3 0.1

AnyFormRandomSeqNo: 8670534

APPLICATION FOR NEW COURSE

1. Submitted by the College of Public Health Date: October 4, 2007

Department/Division proposing course: Biostatistics

2. Proposed designation and Bulletin description of this course:

a. Prefix and Number BST 740

b. Title Spatial Statistics

*If title is longer than 24 characters, write a sensible title (24 characters or less) for use on transcripts:

c. Courses must be described by at least one of the categories below. Include the number of actual contact hours per week for each category, as applicable.

() CLINICAL () COLLOQUIUM () DISCUSSION () LABORATORY (3) LECTURE
() INDEPEND. STUDY () PRACTICUM () RECITATION () RESEARCH () RESIDENCY
() SEMINAR () STUDIO () OTHER - Please explain: _____

d. Please choose a grading system: Letter (A, B, C, etc.) Pass/Fail

e. Number of credit hours: 3

f. Is this course repeatable? YES NO If YES, maximum number of credit hours: _____

g. Course description:

Course will cover risks and rates, types of spatial data, visualizing spatial data, analysis of spatial point patterns, spatial clustering of health events based on case control studies, and based on regional counts, linking spatial exposure data to health events through regression modeling, Bayesian spatial analysis.

h. Prerequisite(s), if any:

BST 760

i. Will this course be offered through Distance Learning? YES NO

If YES, please circle one of the methods below that reflects how the majority of the course content will be delivered:

Internet/Web-based Interactive video Extended campus Kentucky Educational Television (KT/teleweb) Other

Please describe "Other": _____

3. Teaching method: N/A or Community-Based Experience Service Learning Component Both

4. To be cross-listed as: STA _____
Prefix and Number Signature of chair of cross-listing department

5. Requested effective date (term/year): Fall / 2009

APPLICATION FOR NEW COURSE

6. Course to be offered (please check all that apply): Fall Spring Summer
7. Will the course be offered every year? YES NO
If NO, please explain: _____
8. Why is this course needed?
This is an elective course in the proposed PhD in Epidemiology and Biostatistics.
-
9. a. By whom will the course be taught? Richard Kysci o or Adam Branscum
- b. Are facilities for teaching the course now available? ES NO
If NO, what plans have been made for providing them?

10. What yearly enrollment may be reasonably anticipated?
10 per offering
11. a. Will this course serve students primarily within the department? ES No
- b. Will it be of interest to a significant number of students outside the department? ES NO
If ES, please explain.

12. Will the course serve as a University Studies Program course[†]? ES NO
If ES, under what Area? _____
[†]AS OF SPRING 2007, THERE IS A MORATORIUM ON APPROVAL OF NEW COURSES FOR USP.
13. Check the category most applicable to this course:
- traditional – offered in corresponding departments at universities elsewhere
 - relatively new – now being widely established
 - not yet to be found in many (or any) other universities
14. Is this course applicable to the requirements for at least one degree or certificate at UK? ES No
15. Is this course part of a proposed new program? ES NO
If ES, please name: PhD in Epidemiology and Biostatistics
16. Will adding this course change the degree requirements for ANY program on campus ? ES NO
If ES [†], list below the programs that will require this course:

APPLICATION FOR NEW COURSE

*In order to change the program(s), a program change form(s) must also be submitted.

17. The major teaching objectives of the proposed course, syllabus and/or reference list to be used are attached.
18. Check box if course is 400G or 500. If the course is 400G- or 500-level, *you must include a syllabus showing differentiation* for undergraduate and graduate students by (i) requiring additional assignments by the graduate students; and/or (ii) the establishment of different grading criteria in the course for graduate students. (See SR 3.1.4)

19. Within the department, who should be contacted for further information about the proposed new course?

Name: Richard J. Kryscio Phone: 257-4064 Email: kryscio@email.uky.edu

20. Signatures to report approvals:

4-1-08
DATE of Approval by Department Faculty

Richard Kryscio, Richard Kryscio
printed name Reported by Department Chair signature

6-26-08
DATE of Approval by College Faculty

Linda Alexander, Linda Alexander
printed name Reported by College Dean signature

* DATE of Approval by Undergraduate Council

printed name Reported by Undergraduate Council Chair signature

* DATE of Approval by Graduate Council

Robert A. Jackson, Robert A. Jackson
printed name Reported by Graduate Council Chair signature

8/19/08
* DATE of Approval by Health Care Colleges Council (HCCC)

Heldi Anderson, Heidi Anderson
printed name Reported by Health Care Colleges Council Chair signature

* DATE of Approval by Senate Council

Reported by Office of the Senate Council

* DATE of Approval by University Senate

Reported by Office of the Senate Council

*If applicable, as provided by the *University Senate Rules*. (<http://www.uky.edu/USC/New/RulesandRegulationsMain.htm>)

BST 740: Spatial Statistics

Course Description: This course covers the following topics: risks and rates, types of spatial data, visualizing spatial data, analysis of spatial point patterns, spatial clustering of health events based on case control studies, and based on regional counts, linking spatial exposure data to health events through regression modeling, Bayesian spatial analysis.

Course Structure: 3 credit hours (3 hours of lecture, 0 hours of laboratory)

Prerequisites: BST 760 or equivalent.

Initial Offering: Spring 2009

Instructors: Any faculty member in the Biostatistics Department

Philosophical Statement: Characterizing spatial distributions of disease events and exposures, and identifying factors predictive of where disease occurs is a core component to epidemiologic and public health practice and research. CPH 638 will provide students a framework for analyzing spatial disease data, and illustrate the utility of spatial methods in public health. While aimed at biomedical scientists and public health practitioners, the course is also suitable for students in other disciplines for which knowledge of statistical and epidemiologic concepts, models and methods in spatial analysis are important. CPH 638 has methodological, computational, and data analysis components. Although statistical methodology will be presented to the extent needed for students to understand the models and methods, the course emphasizes practical applications over theory.

Objectives: On successful completion of the course, students will be able to describe, display, and analyze and interpret spatial data. Specifically, students will be able to:

1. Identify sources and defining features of common types of spatial data
2. Smooth (predict) spatial distributions of disease and exposures
3. Identify disease clustering
4. Apply regression models to spatially quantify disease-exposure associations
5. Identify risk factors for spatial occurrence of disease
6. Contribute to the design and execution of studies designed to address research questions in which spatial data are prominent
7. Critically evaluate publications in applied spatial statistics and/or epidemiology

References: Lecture notes will be provided by the instructor. One of the following may be used as the official textbook:

1. Lawson, A. *Statistical Methods in Spatial Epidemiology*. Wiley, 2006.
2. Waller LA, Gotway CA. *Applied Spatial Statistics for Public Health Data*. Wiley, 2004.
3. *Spatial and syndromic surveillance for public health*. Editors: A.B Lawson and K Kinman. Wiley, 2005.
4. *Disease mapping and risk assessment for public health*. Editors A. B. Lawson, A Biggeri, D Bohning, E Lesaffre, J-F Viel, R Bertollini. Wiley, 1999.

5. Lawson, A, Williams, F.L.R. (2001). *An introductory guide to disease mapping*. Wiley.

Detailed Outline:

- I. Review of concepts used in analyzing public health data
 - a. Risks and rates
 - b. Standardized rates
 - c. Epidemiologic study designs
 - d. Modeling counts and rates through regression analysis
 - e. Challenges with observational data: bias, confounding, effect modification, and ecological fallacies
- II. Spatial data
 - a. Geographical coordinates, projections, vectors, polygons
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- III. Visualizing spatial data
 - a. Types of statistical maps
 - b. Smoothing rates: nonparametric methods, empirical Bayes
 - c. Modifying areal units
- IV. Analysis of spatial patterns
 - a. Spatial point processes: stationarity, isotropy, Poisson point process
 - b. Intensity functions
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 - a. Linear regression assuming independent spatial data
 - b. Linear regression models for spatially autocorrelated data
 - c. Spatial autoregressive models
 - d. Generalized linear models for spatial data
- IX. Bayesian models
 - a. Overview of Bayesian ideas and data analysis
 - b. Hierarchical structure
 - c. Estimation and inference
 - d. Markov chain Monte Carlo (MCMC) methods
 - e. Metropolis-Hastings cluster sampling

Assessment: Grades will be based on problem sets (25%), critical review and leading class discussions on sets of published papers that apply spatial methods in public health (10%), a midterm examination (25%), and a final examination (40%).

Grading Scale:

Grade	%
A	90-100
B	80-89
C	70-79
E	60-69

LaRoche, Adrea S.

From: Brothers, Sheila C
Sent: Monday, September 22, 2008 8:42 AM
To: LaRoche, Adrea S.
Subject: FW: HCCC Transmittal - Program Change: MS in Athletic Training
Attachments: PhD Epi Bio Final Signatures.pdf; FW: important-EPI 714; FW: regarding the New Program Proposal for the PhD in Epidemiology and Biostatistics

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Curricular Items

Don't let the subject line fool you – this is for a PhD in Epidemiology. ☺

Sheila

*Office of the Senate Council
Phone: (859) 257-5872*

From: Lindsay, Jim D.
Sent: Friday, September 19, 2008 2:20 PM
To: Nikou, Roshan; Jackson, Brian A
Cc: Brothers, Sheila C; Anderson, Heidi Milia; Flanagan, Rebecca; Alexander, Linda A; Kryscio, Richard
Subject: RE: HCCC Transmittal - Program Change: MS in Athletic Training

September 19th, 2008

T R A N S M I T T A L

TO: Brian Jackson, Roshan Nikou
Graduate Council
FROM: Jim Lindsay
Health Care Colleges Council

At its August 19th 2008 meeting, the Health Care Colleges Council approved the following proposal and is now forwarding it to the Graduate Council to approve:

College of Public Health
New Program: Ph.D. in Epidemiology

Attached are the materials to implement the requested action.

cc: Linda Alexander
Becki Flanagan
Richard Kryscio
Shelia Brothers
Heidi Anderson

Jim Lindsay
Health Care Colleges Council Coordinator
Associate Provost for Faculty Affairs Office
University of Kentucky, 205 Frazee Hall
Lexington, KY 40506-0031 Ph. (859) 323.6638
www.uky.edu/Provost/AcademicCouncil/council.php

APPLICATION FOR NEW COURSE

1. Submitted by the College of Public Health Date: October 4, 2007

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