SSCI 600: The Geography of Life and Death

Units: 4

Term—Day—Time: Fall, 2017, Mondays and/or Wednesdays, 9:00-11:50 a.m.

Location: AHF 145D

Instructor: John Wilson, Ph.D.
Office: AHF B55F
Office Hours: Tuesdays, 9:00-9:50 a.m. and Fridays, 2:00-2:50 p.m. or by appointment
Contact Info: jpwilson@usc.edu, 213-740-1908 (office)

Library Help: Sherry Mosley
Office: VKC B40C
Office Hours: By appointment
Contact Info: smosley@usc.edu, 213-740-8810 (office)
Course Description
This course explores the various ways place (and space) have been invoked and used to better understand human health outcomes and social and environmental determinants in the past few decades. The course will examine the current approaches, methodological issues, and enduring challenges in spatial epidemiology, quantitative approaches used for disease mapping and modeling, the various ways in which individual-level exposures can be resolved with place-based information, how place-based human behaviors might mediate these health-related exposures, and the kinds of data and tools that are now available for conducting research synthesizing population, health, and place. The current state-of-the-art will be introduced with an assortment of weekly readings and discussions and a series of individual projects will allow class participants to develop their own proposals for more detailed research.

Learning Objectives
On completion of this course, students will be able to:

- Describe the various ways place (and space) have been invoked to better understand human health outcomes as well as social and environmental determinants.
- Describe the settings, populations, and issues that are often skipped, ignored, or overlooked in the empirical literature on population, health, and place.
- Discuss how place affects different groups of people in different ways and how place can be used to accomplish meaningful social change.
- Discuss the ways in which research to date has linked environment, genetics, and behavior to inform our understanding of human health outcomes.
- Discuss how genomic and proteomic knowledge and databases might support individual- and population-level geographic research on human genetics and health outcomes.
- Discuss the various ways in which we can resolve individual-level exposures and place-based information.
- Discuss some of the ways in which place-based human behaviors mediate health-related exposures and whether or not simulation and gaming approaches can yield lasting salubrious health behaviors.
- Discuss the current approaches, methodological issues, and enduring challenges in spatial epidemiology.
- Describe the quantitative approaches that have been used for disease mapping and modeling during the past few decades.
- Describe the kinds of data and tools that are currently available for conducting research synthesizing population, health, and place.

Prerequisite(s): None
Co-Requisite(s): None
Concurrent Enrollment: None
Recommended Preparation: Students must be enrolled in an existing USC Ph.D. program

Course Notes
The course will be taught as a seminar and class meetings will be used to discuss the assigned readings and any questions and related topics that arise from the readings. The learning and
teaching strategies are student-centered. They aim to encourage a deep-learning approach by using reflection and self-evaluation. The individual class sessions will be organized around a series of class readings (and occasional guest presentation) that are designed to provide the essential background and framework for study. Students will be required to reflect on their learning through in-class discussions and weekly briefs.

Required Readings and Supplementary Materials
The weekly readings will be accessed via the USC Library’s electronic collections and/or provided by the instructor via Blackboard.

Description and Assessment of Assignments
Students must prepare a seminar, a research paper and presentation, and participate in class discussion on a regular basis.

Class Participation (7%): A class participation grade will be assigned based upon how actively students engage in the course. Students will be required to read all material outlined for each week of the course, and be prepared to lead and participate in group discussions about the readings in class. Failure to attend, or not be adequately prepared to discuss the readings will lead to the assignment of a lower grade for that week.

Weekly Briefs (39%): Each week students will use the Blackboard Discussion Forum to provide a critique of an article of their own choosing. These electronic commentaries will be shared among the class, and graded based on the overall quality of the contribution. To help simulate discussion, each student will comment on at least one other student’s critique each week.

Class Seminar (15%): Each student will conduct a seminar on a topic determined in consultation with the instructor. The student leading the seminar will prepare a one-page summary to be distributed in advance of the class itself. The topic may focus on a specific technique or application that spans the intersection of population, health and place and has not otherwise covered in the course.

Final Project (39%): In the second half of the course, each student will work on a project determined in consultation with the instructor. These projects will focus on a specific health challenge or problem and the final report (24%) and class presentation (15%) will summarize the current understanding of the problem and the range of solutions that have been attempted thus far, as reported in the published literature.

Grading Breakdown

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<thead>
<tr>
<th>Assignment</th>
<th>No. of Assignments</th>
<th>% of Grade</th>
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<tbody>
<tr>
<td>Class Participation</td>
<td>14</td>
<td>7</td>
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<tr>
<td>Class Presentation</td>
<td>1</td>
<td>15</td>
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<tr>
<td>Final Projects</td>
<td>1</td>
<td>39</td>
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<tr>
<td>Weekly Briefs</td>
<td>13</td>
<td>39</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>29</strong></td>
<td><strong>100</strong></td>
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Assignment Submission Policy
Assignments will be submitted for grading via Blackboard using the due dates specified in the Course Schedule below.
**Additional Policies**
Students are expected to attend and participate in every class session and to complete and upload all assignments before the deadlines noted in the Course Schedule below. Late work will be assessed a penalty of 10% per day and zero grades will be assigned for work more than one week late.

**Course Schedule: A Weekly Breakdown**

<table>
<thead>
<tr>
<th>Week 1 8/21</th>
<th>Topics/Daily Activities</th>
<th>Readings and Homework</th>
<th>Deliverables/Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Class</td>
<td>Brief introductions coupled with a discussion of class goals, projects, and reading assignments.</td>
<td></td>
<td>No deliverables.</td>
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<table>
<thead>
<tr>
<th>Week 2 8/28</th>
<th>Topics/Daily Activities</th>
<th>Readings and Homework</th>
<th>Deliverables/Due Dates</th>
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<tr>
<th>Week 3 8/30</th>
<th>Topics/Daily Activities</th>
<th>Readings and Homework</th>
<th>Deliverables/Due Dates</th>
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<tbody>
<tr>
<td>Place and Health</td>
<td>The second of a three-part discussion exploring the various ways in which place has been conceptualized and used to better understand human</td>
<td>Meade (2012). The geography of life and death: Deeper, broader, and much more complex. Annals of the Association of American Geographers 102: 1219-1227. Mennis et al. (2011) The effect of neighborhood characteristics and spatial spillover on urban juvenile</td>
<td>Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 8/31. Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Wednesday, 9/6.</td>
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### Week 4  9/18

**Population, Health, and Place**

The third and final part of a three-part discussion exploring the various ways in which place might be conceptualized and used to better understand human health outcomes and determinants in the next few decades. This week’s readings, in particular, explore some of the ways in which modern geospatial technologies can be used to characterize the key relationships linking people, health, and place.

- **Wu et al.** (2016). Land use mix and five-year mortality in later life: Results from the Cognitive Function and Ageing Study. *Health & Place* 38: 54-60.

Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 9/7.

Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 9/11.

### Week 5  9/20

**New GIS Data Sources**

A discussion of some of the new data sources and the types of processing that must be performed to yield useful information and/or to use them with other kinds of digital data in spatial models.

- **Buzzelli et al. (2006).** A GIS spatiotemporal model of ambient air pollution exposure. *Epidemiology* 17: S112-118.
- **Johnson & Barton (2004).** Where in the world are my field plots? Using GPS effectively in environmental field

Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 9/14.

Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 9/18.
| Week 6  
| 9/25  

| Justice in Places  
| A discussion of the ways in which place affects different groups of people in different ways and especially of how place can be used to accomplish meaningful social change.  

Stack (2011). Attachment and dislocation: African-American journeys in the USA. In Burton et al. (eds.) Communities, Neighborhoods and Health: Expanding the  

Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 9/21.  
Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 9/25.
| Week 7 10/2 | Genetic GIS | A discussion of the research to date that has linked environment, genetics, and behavior to inform our understanding of human health outcomes. | **Sloan et al. (2009).** Ecogeographic genetic epidemiology. *Genetic Epidemiology* 33: 281-288.  
**Perry et al. (2010).** *Genetic Landscapes GIS Toolbox: Tools to create genetic divergence and diversity landscapes in ArcGIS.* Sacramento, CA: U.S. Geological Survey Western Ecological Research Center,  
**Storfer et al. (2007).** Putting the ‘landscape’ in landscape genetics. *Heredity* 98: 128-142. | Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 9/28.  
Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 10/2. |
| Week 8 10/4 | Genetics | A discussion exploring how genomic and proteomic knowledge and databases might support individual- and population-level geographic research on human genetics and health outcomes. | **Kolf (2012).** Scientific team sequences 1,092 human genomes to determine standard range of human genetic variation. *E! Science News* (feature article).  
**The 1,000 Genomes Project Consortium (2012).** An integrated map of genetic variation from 1,092 human genomes. *Nature* 491: 56-65. | Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 10/5.  
Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 10/9. |
**Balshaw et al. (2005).** Research strategies for safety evaluation of nanomaterials, Part III: Nanoscale | Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 10/12.  
Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 10/16. |
Mennis et al. (2016) The role of tobacco outlet density in a smoking cessation intervention for urban youth. *Health & Place* 38: 39-47. | Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 10/19.  
Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 10/23. |
Auchincloss et al. (2012). A review of spatial methods in epidemiology, | Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 10/26.  
Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 10/30. |
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<tbody>
<tr>
<td>Week 13</td>
<td>Data &amp; Resources</td>
<td>Janies et al. (2012). Analysis and visualization of H7 influenza using genomic, evolutionary, and ...</td>
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</table>
tools that are currently available to characterize the linkages between population, health, and place.

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generically information in a modular web service. *Cladistics* 28: 483-488.


**Week 14 11/15**  
Data & Resources (II)  
The second and final part of a two-part discussion exploring the data and tools that are currently available to characterize the linkages between population, health, and place.


**Mennis et al. (2015).** Increasing the accuracy of urban population analysis with dasymetric mapping. *Citiescape* 17: 115-126.


Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 11/13.

Submit briefs on Blackboard no later than 5:00 p.m. on Thursday, 11/16.

Comment on at least one other brief on Blackboard no later than 9:00 a.m. on Monday, 11/20.

**Week 15 11/29**  
Final Presentations  
Students will present their final projects, summarizing the insights gathered from their research of the

Students present their projects and answer questions from audience. Allow 30 minutes per student assuming a maximum of five or six in this class.
Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” [https://policy.usc.edu/scampus-part-b/]. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [http://policy.usc.edu/scientific-misconduct].

Support Systems

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. [https://engemannshc.usc.edu/counseling/].

National Suicide Prevention Lifeline – 1-800-273-8255
Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. [http://www.suicidepreventionlifeline.org].

Relationship & Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender-based harm. [https://engemannshc.usc.edu/rsvp/].

Sexual Assault Resource Center
For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: [http://sarc.usc.edu/].

Office of Equity and Diversity (OED)/Title IX compliance – (213) 740-5086
Works with faculty, staff, visitors, applicants, and students around issues of protected class. [https://equity.usc.edu/].

Bias Assessment Response and Support
Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. [https://studentaffairs.usc.edu/bias-assessment-response-support/].

Student Support & Advocacy – (213) 821-4710
Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. [https://studentaffairs.usc.edu/ssa/].
Diversity at USC – https://diversity.usc.edu/
Tabs for Events, Programs and Training, Task Force (including representatives for each school), Chronology, Participate, Resources for Students.

Resources for Online Students
The Course Blackboard page and the GIST Community Blackboard page have many resources available for distance students enrolled in our graduate programs. In addition, all registered students can access electronic library resources through the link https://libraries.usc.edu/. Also, the USC Libraries have many important resources available for distance students through the link: https://libraries.usc.edu/faculty-students/distance-learners. This includes instructional videos, remote access to university resources, and other key contact information for distance students.