11:573:296 **SEBS Honors Seminar: Making and Mapping Healthier Communities**

SYLLABUS

Spring 2017

Instructor:
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Meeting Times/Places
W 10:55 - 1:55 (Blake 128 and 129)
Office Hours: MTh 10:45-11:45 at ENR 133, other times by appointment

Background
In the mid-Nineteenth Century, London was overwhelmed by yet another Cholera outbreak. For reasons no one seemed to fully understand, one neighborhood would be devastated by the epidemic, while a nearby one would suffer only a few horrific cases. One physician, Dr. John Snow, had a theory about the role of water in spreading the disease, but found that his claims about the disease were largely being ignored. He understood that the water sources for the community were often closely linked with release the household effluent, creating a dangerous circulating system of pathogens.

In 1854, Dr. Snow mapped cholera cases in the Soho neighborhoods around the Broad Street water pump. The map showed a clear cluster of cases centering on the Broad Street water pump. The published map helped spark a rapid response by the community which quickly resulted in the removal of the handle from the pump. There is debate over whether the map and the resulting actions actually changed the situation at Broad Street, but the larger result was a clear leap in the public's understanding of the role of place in public health.

"I had an interview with the Board of Guardians of St James's parish, on the evening of the 7th inst [7 September], and represented the above circumstances to them. In consequence of what I said, the handle of the pump was removed on the following day." John Snow

Course Description
The story of Dr. Snow and his cholera map is retold often because it clearly demonstrates the spatial relationship between our physical environment and human health. In NJ, childhood obesity is linked with the parks and convenience stores in the neighborhood near a child's home. This class will explore those linkages and our abilities to shape them.

After an initial overview of the topic, we will begin by learning about geospatial technologies and the role of mapping in public health. We will learn basic GIS operations and techniques so that we can make custom maps for the class, through a series of weekly GIS lab exercises.

We will then look at how communities are shaped and how they shape our health. We will ask questions about planning and design changes that can be made to improve health in communities. The class will work to identify changes that could be made to address specific health concerns or issues.

Finally, we will use a series of 3 projects to combine what we learn with the skills you bring to class. These projects will allow the class to produce products that can be shared with an outside audience and demonstrate the multidisciplinary nature of these topics.

Class Outline

I. INTRODUCTION
II. MAPPING HEALTHIER COMMUNITIES
    Place matters
    ArcGIS Mapping
    ArcGIS Analysis
III. MAKING HEALTHIER COMMUNITIES
    Design matters
    Design for active exercise and walkability
    Design for healthier eating/food supply
    Design for better physical environment
IV. APPLICATIONS
    Geohealth
    Health information assessments
    SafeStreets
    Recreation Master Plans

Class Schedule

    January 18 – First Day
    February 22 -- First Project
    March 11 - March 19 -- Spring Break
    April 5 – Second Project
    April 19 – Third project
    April 26 -- Final class

Grading

    35% Exercises, Participation, Quizzes, and Homework
    20% Project 1 - Geospatial
    20% Project 2 – Design
    25% Project 3 – Applications

Learning outcomes

As an introductory class, a primary purpose of the semester is to introduce the students to various topics and techniques. Mastery will rarely be the result. However, there are still some clear learning outcomes that we expect to achieve:

- Develop basic skills working with geographic information systems and the ability to turn data into maps.

- Demonstrate a practical understanding of how spatial information could inform the development and implementation of community health policies.
- Examine the relationship that contemporary geographic information science and technology have to understanding spatial patterns of health.
- Identify ground-level interventions that can be made in communities to improve healthy living options for their residents.

Due Dates

Except for circumstances truly beyond the student's control, all assignments are due at the dates and times specified throughout the semester. Projects that are incomplete on the due date should still be submitted on the date it is due to receive at least partial credit.

Any work submitted late will be penalized a letter grade for each day past due. Working beyond a due date is both unrealistic in a professional planning setting and unfair to your classmates in this course. The lessons involved in balancing the workload of this class with demanding classes (like organic chemistry or Calc II) is an important part of the honors program.

Academic Integrity

Rutgers has a clearly posted policy on Academic Policy which this class adheres to:
http://academicintegrity.rutgers.edu/

All work submitted for the class should be your own unless clearly stated otherwise. It is unacceptable for students to take credit for the work of others. Students violating the university policy will be subject to the disciplinary consequences of that policy. Unfamiliarity with the policy is not recognized as an excuse for failing to comply. If you are not already familiar with the policy, please take the time to familiarize yourself with it.

Geohealth News
News relating to Environmental Planning will be posted on the Places and Spaces Blog (PlacesAndSpaces.Rutgers.Edu).

Assignment of Grades

While the assignment of grades is ultimately the purview of the instructor, the department uses the following guideline for understanding appropriate grading in its courses:

A – Outstanding – The student demonstrated a superior grasp of the subject matter coupled with a strong ability to present these ideas in an organized and analytical manner. This not only means fulfilling the requirements, but impressing and going beyond the initial expectations of the class.
B – Very Good – The student has demonstrated a solid grasp of the material with an ability to organize and examine the material in an organized, critical, and constructive manner. The assignment and in-class performance reveal a solid understanding of the issues and related theories or literature.
C – Acceptable –The student has shown a moderate ability to grasp concepts and theories for the class, producing work that, while basically adequate, is not in any way exceptional.
D – Unacceptable – The work demonstrates a minimal understanding of the fundamental nature of the material or the assignment with a performance that does not adequately examine the course material critically or constructively.
F – Failure – The student has demonstrated a lack of understanding or familiarity with course concepts and materials. Their performance has been inadequate. Failure is often the result of limited effort and poor attendance, which may indicate that the student needs to reevaluate their interest in the subject.