Research Direction Statement

My general research interests for the PhD program are related to spatial aspects of health-related behaviors. Specifically, this means the relationship between urban form (urban structure and function) and behaviorally-related health such factors such as obesity, activity levels, and nutrition. Research in the relationship between urban form and public health is growing rapidly. Due to the recent development of interest in the field as well as the complex nature of these relationships, no clear causal mechanisms have been identified. Furthermore, most researchers in the field have worked in specific disciplines rather than in interdisciplinary settings. Because of the complex etiology of these behavioral factors, interdisciplinary research holds the greatest promise for beginning to get at causality.

My greatest strength in approaching these problems is skill as a spatial analyst and GIS programmer/analyst. I have performed substantial GIS programming work on a project which attempted to quantify the environmental factors contributing to walkability and bikeability in the Seattle/King County area (http://gis.washington.edu/phurvitz/wbc/). The data generated by the GIS extension was critical for establishing a statistical relationship between self-reported activity levels and objective measures of urban form within proximity of the subjects’ households (the total length of sidewalk, the number, area, and proximity to parcels of various different land uses, the number of intersections and crosswalks, etc., a total of over 200 individual metrics).
While I have a strong skill set in the technical aspects of operationalizing research questions within a GIS framework, my weaknesses, which are the main reasons I am pursuing a PhD in this field, are in the overall research aspects of this type of project. Over the next few years I will gain more practice in the process of research: defining research questions, forming hypotheses, literature review, using research methods, and preparing for publication. Thus for this course I intend to continue work on part of the previous Walkable-Bikeable Communities project. I would like to finish the quarter with a manuscript that will be ready or nearly ready for submission to a peer-reviewed journal. Specifically, I will be undertaking a more thorough analysis of neighborhood centers (NCs; see http://gis.washington.edu/phurvitz/wbc/instructions/cluster_analysis/), mainly a descriptive study characterizing the composition and configuration of land uses within the different types of neighborhood centers. Some of the specific descriptions include:

1. publication of the method for defining NCs
2. descriptive statistics of the number and size of each type of NC
3. quantification of land uses and other urban form elements within NCs of different types
4. difference between NCs in different urban locations (e.g., dense inner city, suburban; inside/outside UGB)
5. distance between NCs of different types in different locations; suggest “catchment” areas for different NCs