

Health and Medical Geography (GEOG 222)

Spring 2019 Class meets:

Tuesdays and Thursdays 12:30-1:45pm
Carolina Hall Room 220

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Course Objectives

This course is a survey of health and medical geography, a field that focuses on geographic aspects of health and disease. The field deals with human-environment interactions and the influence these interactions have on human health. What distinguishes health and medical geography from the discipline of geography as a whole is simply its thematic focus, not its methods or theoretical grounding. Throughout the semester we will use the concepts and techniques of the discipline of geography to investigate a variety of health-related topics. This course covers three major approaches to health and medical geographic scholarship: ecological approaches, which systematically analyze relationships between people and their environments; social approaches, including political economy and socio-behavioral approaches; and spatial approaches, which employ maps and spatial analysis to identify patterns of spatial distributions. Students are encouraged to view these three approaches as complementary. Health and medical geography is integrative and interdisciplinary, incorporating contributions from a wide range of specialties. Specific course objectives include:

1. Facilitate a critical understanding of health, disease, illness, and society;
2. Introduce major contemporary issues in global health;
3. Promote an understanding of how geography as a discipline contributes to understanding health and disease;
4. Understand the impact of ecological and population change on health;
5. Explain how social and economic context impacts health;
6. Utilize maps to examine the spatial patterns of disease and risk factors that may contribute to disease

Readings

The required course text is “Health and Medical Geography, Fourth Edition” New York: The Guilford Press, by Michael Emch, Elisabeth Root, and Margaret Carrel. 2017. ISBN 9781462520060. You can order from the UNC book store through this [link](#).

There are also required online articles, podcasts, and TED Talks that you will read, watch, and listen to that are linked to the schedule below.

Portfolio

Everything you produce in the class will be part of your class portfolio. All of your portfolio items should be put in your Sakai Drop Box each week **before** class the day they are due. These items are described below and include weekly reading reflections, a class project, and outputs based on in-class exercises (due before class the Tuesday after we work on them in class). The file format for all documents submitted for this class should be Word or PDF. On Sakai there is a document called “Exact Portfolio Contents and File Names” that lists each document that must be included in your final class portfolio.

Classroom Activities, Reading Reflections, and Writing Assignments

Life is one messy group project and a university is a good place to learn to work with others. Class time will be composed of different activities including lectures, discussions of readings, and working in groups on exercises focused on health and medical geography. You will hand in reading reflections each week **before** class on Sakai Dropbox. The general rule in this class is that whenever you read something or do something you will write something and hand it in. The reflections should be one page, typed in 12-point font, and single-spaced describing at least 3-5 useful things you learned from the readings for that week. When there is more than one reading for the day then you must write something about each reading. Also, for all book chapters you must answer at least one review question from the chapter assigned. Submit the reading reflections for a particular week before class on Tuesday. Weeks 1 and 2 reading reflections are both due before class on Tuesday of Week 2. The reflections should be put in your Dropbox portfolio each week based on the schedule below (even if we get behind). Each item in your portfolio should have the week number and description, e.g. ReadingReflectionWeek1.doc. Make sure you use that exact name or the instructor and TA will assume it doesn't exist. When you work on a group exercise in class you should also put the output in your Sakai DropBox portfolio with an appropriate title e.g. ClassExercise1.doc. Again, use that exact title specified here. Each person in the group will need to upload it separately to your Sakai Dropbox. Also, please only upload one file per exercise and if you have maps or graphics that are part of the output then please embed them in the Word document or PDF. In summary, at the end of the semester you will have 13 reading reflections, one for each week except the week before the midterm, the midterm week, and final exam week, and as many in-class exercise documents as we end up doing, probably eight. Also, the tentative weeks that we'll do the class exercises are listed below but they are only tentative and the week we do them may change and we may do them on Tuesday or Thursday of a given week as well.

Class time is for discussion and activities. Unless otherwise instructed, please **put your devices away** (i.e., computers, phones, tablets) and **silence them** before you store them. The lecture slides will be available on Sakai so you can print them before class and take notes with a pen if you like.

Project

A project is required for all students. It is intended to provide a deeper understanding of a health and medical geography problem. The deliverable is a digital poster presentation that you will present to the class. You should use the knowledge you acquire in the class discussion, book, podcasts, and other materials and activities of the course. It should be put on your Sakai Drop Box portfolio by the due date listed on the schedule below and the title should be FinalProject.PDF. At the end of the semester you will present your digital poster. You should also submit it to your Sakai Drop Box site.

Grading

The course grade is based on the following activities. The percentage that each activity counts toward the final grade for this course is listed.

- Weekly reading/podcast reflections (13% of final grade): Each reflection counts as 1% of your grade and you must hand in all 13 of them or your class grade will go down 2% for each reflection that you do not hand in (in addition to getting a 0 on the reflections you do not hand in).
- In class exercises (32% of final grade): There are eight class exercises and each counts as 4% of your grade and you must hand in all eight of them or your class grade will go down 2% for each exercise that you do not hand in (in addition to getting a 0 on the exercises). You must turn in the exercise outputs on Sakai that you produce during the classroom activities and discussions, so you need to attend class (Hint: if you are a student who misses class for other than extraordinary circumstances such as sickness, religious holidays, or deaths in the family then this is not the class for you). It is possible that we won't finish all eight exercises during the semester and if not then the 32% will be divided equally by the number of exercises we finish.
- Final Project (19% of final grade)
- Midterm (18% of final grade)
- Final (18% of final grade)

The midterm and final will be a combination of multiple choice, true/false, short answer, and essays.

The grading scale is: A 93-100, A- 90-92.99, B+ 87-89.99, B 83-86.99, B- 80-82.99, C+ 77-79.99, C 73-76.99, C- 70-72.99, D+ 67-69.99, D 63-66.99, D- 60-62.99, F below 60.

Schedule (ERC Book is the Emch, Root, Carrel book)

Week: Dates	Topics and Readings
<p>Week 1: Thursday January 10</p>	<p>INTRODUCTION</p> <p><u>What is Health and Medical Geography?</u></p> <p>Introduction to Medical and Health Geography, Concepts of Health and Disease, Epidemiological Terminology</p> <ul style="list-style-type: none"> • What is health and medical geography? • How do we define health? • Some epidemiological terminology that will help you throughout the semester <p><u>Readings</u></p> <p>ERC Book, Preface, Hippocrates quote, Part 1 Introduction, and Chapter 1</p>
<p>Week 2: Tuesday and Thursday January 15 and 17</p>	<p>ECOLOGICAL APPROACHES</p> <p><u>Ecology of Health and Disease</u></p> <ul style="list-style-type: none"> • Disease Agents and Transmission Processes • The Triangle of Human Ecology • Landscape Epidemiology and Vectored Diseases <p><u>Readings and Podcasts</u></p> <p>ERC Book, Chapter 2</p> <p>Online article: Cholera 101</p> <p>NY Times article on cholera vaccine</p> <p>Podcast on Haiti cholera vaccine campaign</p> <p>Class Exercise 1</p>
<p>Week 3: Tuesday and Thursday January 22 and 24</p>	<p><u>Expanding Disease Ecology: Politics, Economics, and Gender</u></p> <ul style="list-style-type: none"> • Political Ecology • The Poverty Syndrome • Race in the Study of Health Risks • Gender and Sex: Women's Health

	<ul style="list-style-type: none"> • Causal Reasoning and Epidemiological Design • HIV and AIDS: Gender, Mobility, and Political Ecology • The Precautionary Principle and Some Political Ecology of Research <p><u>Readings</u></p> <p>ERC Book, Chapter 3</p> <p>Class Exercise 2</p>
<p>Week 4: Tuesday and Thursday January 29 and 31</p>	<p><u>Transitions and Development</u></p> <ul style="list-style-type: none"> • Ecologies of Population Change: Multiple Transitions • Major Impacts of Population Change • Environmental Exposures, the Mobility Transition, and Time–Space Geography • Disease Ecologies of the Agricultural Frontier • Other Development Impacts on Rural Ecologies • Globalization of Movements <p><u>Readings</u></p> <p>ERC Book, Chapter 4</p> <p>Class Exercise 3</p>
<p>Week 5: Tuesday and Thursday February 5 and 7</p>	<p>MAPS and METHODS</p> <p><u>Maps, GIS, and Spatial Analysis</u></p> <ul style="list-style-type: none"> • Cartography of Health and Disease • Geographic Information Systems • Spatial Statistics <p><u>Readings</u></p> <p>ERC Book, Part 2 introduction and Chapter 5</p> <p>Class Exercise 4</p>
<p>Week 6: Tuesday and Thursday February 12 and 14</p>	<p><u>Disease Diffusion</u></p> <ul style="list-style-type: none"> • Diffusion Background • Epidemiological Background • Types of Diffusion

	<p><u>Readings and Podcasts</u></p> <p>ERC Book, Chapter 6</p> <p>Podcast (Paul Ewald)</p> <p>Class Exercise 5</p>
<p>Week 7: Tuesday and Thursday February 19 and 21</p>	<p><u>Disease Diffusion</u></p> <ul style="list-style-type: none"> • Networks and Barriers • Modeling Disease Diffusion • Influenzas <p>There are no additional readings for this week</p>
<p>Week 8: Tuesday and Thursday February 26 and 28</p>	<p>Catch-up and Review on Tuesday</p> <p>Midterm Exam on Thursday</p>
<p>Week 9: Tuesday and Thursday March 5 and 7</p>	<p><u>Emerging Infectious Diseases and Landscape Genetics</u></p> <ul style="list-style-type: none"> • What's in a Name? Emerging, Reemerging, or Always There • Why Do Diseases Emerge, Reemerge, or Persist? • Where Can We Expect These Diseases to Emerge/Reemerge? • How Will These Diseases Behave? • Landscape Genetics <p><u>Readings</u></p> <p>ERC Book, Chapter 7</p> <p>Podcast, Patient Zero: The Origin of AIDS</p> <p>Class Exercise 6</p>

<p>Week 10: Tuesday and Thursday March 19 and 21</p>	<p>WHAT WE EAT and WHERE WE LIVE</p> <p>Food, Diet, and the Nutrition Transition</p> <ul style="list-style-type: none"> • From Hunter–Gatherers to Farmers • The Columbian Exchange • Modern Agricultural Systems • The Green Revolution • The Nutrition Transition • Commercial Agriculture and the Nutrition Transition • Direct and Indirect Health Effects of Agricultural and Dietary Changes <p><u>Readings</u></p> <p>ERC Book, Part 3 introduction and Chapter 8</p> <p>Class Exercise 7</p>
<p>Week 11: Tuesday and Thursday March 26 and 28</p>	<p><u>Neighborhoods and Health</u></p> <ul style="list-style-type: none"> • The Concept of Neighborhood Health • Social Context and Health • Effects of the Built Environment on Health • Opportunities and Challenges in Neighborhood Effects Studies <p><u>Readings</u></p> <p>ERC Book, Chapter 9</p> <p>Guest Speaker on March 28th: Paul Delamater will speak about geographic patterns of vaccine exemption</p>
<p>Week 12: Tuesday and Thursday April 2 and 4</p>	<p><u>Urban Health</u></p> <ul style="list-style-type: none"> • Cities and Urbanization • A Brief History of Cities • Large Cities in the Modern Era • Developing World Cities: Dickens or a Dream? • Traffic • Disappearing Cities? <p><u>Readings</u></p> <p>ERC Book, Chapter 10</p> <p>Class Exercise 8</p>

<p>Week 13: Tuesday and Thursday April 9 and 11</p>	<p>ENVIRONMENTS and CLIMATES</p> <p><u>Environment and Health</u></p> <ul style="list-style-type: none"> • Toxic Hazards • Outdoor Air Pollution • Indoor Air Pollution • Water Pollution • Sources and Health Effects of Lead • Risk Assessment and Prevention • Globalization and the Perception of Health Hazards • Hazards, Power, Policy, and Environmental Justice • Healthy Environments <p><u>Readings</u></p> <p>ERC Book, Chapter 11</p>
<p>Week 14: Tuesday and Thursday April 16 and 18</p>	<p>Climate and Health</p> <ul style="list-style-type: none"> • Direct Biometeorological Influences • The Influences of the Weather • Seasonality of Death and Birth • Physical Zonation of Climates and Biomes • Climate Change and Health <p><u>Readings</u></p> <p>ERC Book, Chapter 12</p>
<p>Week 15: Tuesday and Thursday April 23 and 25</p>	<p>Health Services and Access to Care</p> <ul style="list-style-type: none"> • What Is Access? • The Provision of Medical Care • Cultural Alternatives and Perceptions • Transforming the Health Service Landscape <p><u>Readings</u></p> <p>ERC Book, Chapter 13</p> <p>Thursday: Final Exam</p>
<p>Week 16: Noon- 3pm May 3rd</p>	<p>Exam Time: Final Project Presentations Final Project Digital Poster due on Sakai</p>

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