

Health and Medical Geography (GEOG 222)

Fall 2022 Class meets:

Tuesdays and Thursdays 11am-12:15pm

Carolina Hall 220

Instructor: Michael Emch (he/his)

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Office hours: Tuesdays and Thursdays 12:30-1:30 or by appointment

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Office hours: 2-4pm Tuesdays

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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, economic, 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.

There are also some other required articles that are either linked to the schedule below or on the Sakai site.

Sakai Assignments

Everything you produce in the class will be part of your class portfolio. All of your portfolio items should be put in your Sakai Assignments site each week **before** class the day they are due. These items are described below and include weekly reading reflections and outputs based on in-class exercises. The file format for all documents submitted for this class should be PDF. Each reading reflection in your portfolio should use the following naming convention with the week as part of the title: e.g., ReadingReflectionWeek2.pdf. Class exercise file names should include the exercise number, e.g., Exercise1.pdf.

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 Assignments. 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 at least $\frac{3}{4}$ page, typed in 12-point font, and single-spaced (minimum 500 words) 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 (total of one page combined). Also, for all book chapters you must answer at least one review question from the chapter assigned, which are at the end of each chapter. The reflections should be put in your Assignments portfolio each week based on the schedule below (even if we get behind). The Sakai calendar lists all due dates as well. Each item in your portfolio should have the week number and description, e.g., ReadingReflectionWeek2.pdf. Please submit all assignments as PDFs and not Word documents. Also, make sure you use that exact name, or the instructor and TA will assume it doesn't exist.

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.

Attendance

Attendance will be taken each day. If you miss class more than twice then please do the makeup assignment for that day. There is a document on Sakai called makeupassignment.pdf; please read it if you miss more than two classes during the semester. There is no difference between an excused absence and an unexcused absence. You must complete a makeup assignment in either case, beyond the two absences.

Course Grade

The course grade is based on the following activities. The percentage that each activity counts toward the final grade for this course is listed. You must hand in ALL assignments.

- Weekly reading reflections (20% of final grade): You must hand in all of the reading reflections, 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).
- Class exercises (40% of final grade): There are eight class exercises and each count as 5% 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).
- Midterm (20% of final grade)
- Final (20% 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)

Note: the due dates for each assignment are on the Sakai calendar as well as under Sakai Assignments

Week: Dates	Topics and Readings
Week 1: Aug 16 and 18	COURSE INTRODUCTION <u>Activities</u> Ice breaker and meet class members Goals of the class and introduction <u>Materials</u> Read the course syllabus in detail and explore the course Sakai site
Week 2: Aug 23 and 25	INTRODUCTION <u>What is Health and Medical Geography?</u>

	<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><u>Deliverables</u></p> <p>Week 2 Reading Reflection</p> <p><u>Activities</u></p> <p>Class Exercise 1: Studying Health and Disease using a Health Geography Perspective</p>
<p>Week 3: Aug 30 and Sep 1</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</u></p> <p>ERC Book, Chapter 2</p> <p><u>Activities</u></p> <p>Class Exercise 1: Studying Health and Disease using a Health Geography Perspective</p> <p><u>Deliverables</u></p> <p>Week 3 Reading Reflection</p>

<p>Week 4: Sep 6 No Class Wellness Day, Sep 8 class will meet</p>	<p><u>Ecology of Health and Disease</u></p> <ul style="list-style-type: none"> • Landscape Epidemiology and Vectored Diseases <p><u>Readings</u></p> <p>ERC Book, Chapter 2</p>
<p>Week 5: Sep 13 and 15</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 • 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><u>Activities</u></p> <p>Class Exercise 2: Cholera human ecology political ecology framework</p> <p><u>Deliverables</u></p> <p>Week 5 Reading Reflection Class Exercise 1</p>
<p>Week 6: Sep 20 and 22</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><u>Activities</u></p> <p>Class Exercise 3: Applying the Demographic Transition Model</p> <p><u>Deliverables</u></p> <p>Week 6 Reading Reflection</p> <p>Class Exercise 2</p>
<p>Week 7: Sep 27 and 29</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><u>Activities</u></p> <p>Class Exercise 4: Thinking Spatially, Map Visualization</p> <p><u>Deliverables</u></p> <p>Week 7 Reading Reflection</p> <p>Class Exercise 3</p>
<p>Week 8: Oct 4 and 6</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><u>Activities</u></p> <p>Class Exercise 5: GIS in Public Health</p>

	<p><u>Deliverables</u> Week 8 Reading Reflection Class Exercise 4</p>
<p>Week 9: Oct 11 and 13</p>	<p><u>Activities</u> Catch-up and Review on Tuesday Midterm Exam on Thursday</p>
<p>Week 10: Oct 18 class will meet, Oct 20 Fall Break no class</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> ERC Book, Chapter 7 COVID-19 Origins</p> <p><u>Activities</u> Class Exercise 6: Disease diffusion and evolution, HIV and Cholera</p> <p><u>Deliverables</u> Week 10 Reading Reflection Class Exercise 5</p>

<p>Week 11: Oct 25 and 27</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 Covid disparities paper (on Sakai)</p> <p><u>Activities</u></p> <p>Class Exercise 6: Disease diffusion and evolution, HIV and Cholera</p> <p><u>Deliverables</u></p> <p>Week 11 Reading Reflection</p>
<p>Week 12: Nov 1 and 3</p>	<p><u>Urban Health and a little bit on the Nutrition Transition</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>ERC Book Chapter 8 pages 291-292 (Nutrition Transition)</p> <p><u>Activities</u></p> <p>Class Exercise 7: Emerging and remerging diseases</p> <p><u>Deliverables</u></p> <p>Week 12 Reading Reflection Class Exercise 6</p>

<p>Week 13: Nov 8 and 10</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><u>Activities</u></p> <p>Class Exercise 8: Neighborhoods and Health</p> <p><u>Deliverables</u></p> <p>Week 13 Reading Reflection</p> <p>Class Exercise 7</p>
<p>Week 14: Nov 15 and 17</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><u>Activities</u></p> <p>Class Exercise 8: Neighborhoods and Health</p> <p><u>Deliverables</u></p> <p>Week 14 Reading Reflection</p>

<p>Week 15: Nov 22 class, Nov 24 no class Thanksgiving</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><u>Deliverables</u></p> <p>Week 15 Reading Reflection</p>
<p>Week 16: Nov 29 Last day of class</p>	<p>Exam review day Class Exercise 8</p>
<p>Exam: Dec 3 8-11am</p>	<p><u>Activities</u> Final Exam</p>

Title IX

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Please contact the Director of Title IX Compliance (Adrienne Allison – Adrienne.allison@unc.edu), Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators (gvsc@unc.edu; confidential) to discuss your specific needs. Additional resources are available at safe.unc.edu.

Accessibility Resources and Service (ARS)

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities. Accommodations are determined through the Office of Accessibility Resources and

Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Website for contact information: <https://ars.unc.edu> or email ars@unc.edu.

Honor Code

UNC has a student-led [honor system](#). Academic integrity is at the heart of Carolina and we all are responsible for upholding the ideals of honor and integrity. The student-led Honor System is responsible for adjudicating any suspected violations of the Honor Code and all suspected instances of academic dishonesty will be reported to the Honor System. Information, including your responsibilities as a student is outlined in the Instrument of Student Judicial Governance. Your full participation and observance of the Honor Code is expected. Plagiarism in the form of "deliberate" or "reckless" representation of another's words, thoughts, or ideas as one's own without appropriate attribution to the original author in connection with submission of academic work, whether graded or otherwise, is a serious breach of the academic integrity demanded by the Honor Code and one of the most common forms of academic misconduct processed by the Honor System. Plagiarism can take many forms and there may be a number of reasons why it occurs. Quote and cite any words that are not your own. If you paraphrase the words of another, you must still give proper attribution. All academic work in this course is to be your own work, unless otherwise specifically provided such as the group exercises. It is your responsibility if you have any doubt to confirm whether or not collaboration is permitted.