

# GEO 3452: Introduction to Medical Geography

Summer 2025 | 3.00 credits

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## I. General Information

**Meeting time and location:** Asynchronous, 100% online via Canvas

**Instructor:**

**Name:** Ian Pshea-Smith, MPH | Ph.D. Student, Medical Geography in Global Health

**Office Building/Number:** Turlington Hall 3041

**Phone:** 517.677.7930

**Email:** [ianpsheasmith@ufl.edu](mailto:ianpsheasmith@ufl.edu)

**Office Hours:** 1-2:30PM Tuesdays and Thursdays and by appointment

Office Hours Zoom Link: <https://ufl.zoom.us/j/99990483035>

In-person office hours are available in Turlington 1215 upon request.

**Course Site:** <https://elearning.ufl.edu/>

**Prerequisites:** Students with a sophomore standing or higher. Entry level knowledge of statistics is preferred (STA2023, GEO3162C, or equivalent), but not required.

### Course Description

Medical geography deals with human-environment interactions and the influence of these interactions on public health. Provides a broad and comprehensive survey of geographic approaches in medical studies.

### Course Materials

Recommended Textbook: Emch, M., Root, E. D., & Carrel, M. (2017). Health and medical geography (4th ed.). New York, NY: The Guilford Press. Free online access to the textbook is available through the UF Library.

Materials Fee: \$32.19 | ArcGIS Pro fee for access via UF Apps, and is available to students via UF Apps.

Course materials including lectures, selected readings and varied external sources will be linked to via Canvas.

### General Education Designation: Biological Sciences (B)

This course accomplishes the General Education objectives of the subject area listed above. A minimum grade of C is required for General Education credit. Courses intended to satisfy General Education requirements cannot be taken S-U.

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## II. Course Objectives, Learning Outcomes and Goals

## Course Objectives

At the end of this course, successful students will be able to:

1. Apply basic concepts, principles, and methods that are widely used in medical geography.
2. Investigate health problems with a systematic approach and spatial analysis methods.
3. Analyze real-world health problems using geographic information systems software.

At the end of this course, students will be expected to have achieved [General Education](#) learning outcomes as follows:

Category	Student Learning Outcomes	Course activities	Assessments
Content	Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline.	Discuss and describe fundamental concepts, principles, and methods relating to medical geography.	Module quizzes, midterm exam, graded discussion boards, GIS labs, final term project.
Critical Thinking	Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the discipline.	Synthesize recent scientific literature related to a disease or health issue to identify alignment with the Triangle of Human Ecology.	Graded discussion boards, GIS labs, and final term project.
Communication	Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline.	Visualize health data in maps to communicate spatial patterns of health issues. Interpret quantitative statistical results from spatial health data. Explain key scientific findings in written, oral, and visual formats.	Graded discussion boards, GIS labs, and final term project.

## Student Learning Outcomes

A student who successfully completes this course will be able to:

- Demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline.
- Logically analyze information from multiple perspectives and develop reasoned solutions to problems within the discipline.

- Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline.
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### III. Graded Work

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the [Catalog](#).

Items	Percentages (%)
Discussions	10
Quizzes	40
Midterm	20
Final Assignment	30
<b>Total</b>	<b>100</b>

#### Graded Components

##### Discussions (10%):

There are multiple modules with discussion forums (combined for 10% of overall grade). These are opportunities to extend what students have learned in the same module. Students are expected to adhere to professional etiquette standards (see UF Policies) in all posts and to engage in CONSTRUCTIVE dialogue. Posts are expected to be thoughtful, detailed responses (i.e., "yes," "no," "I agree," or "I disagree" answer is not sufficient). In most cases, discussions require some research or reading before initial post. Follow-up posts are typically required. For discussion forum assignments, timeliness is critical, and due dates should be strongly adhered to.

##### Quizzes (40%):

There are two types of quizzes in the course, module quizzes and GIS lab quizzes, combined for 40% of the final grade. All quizzes will be due on Sunday night for the week listed in the course schedule at 11:59 PM (ET).

Module quizzes: There are four module quizzes across the six weeks. Each module quiz is graded, timed, and worth 100 points. Questions are asked based on the objectives, lectures, and readings of the module. Module quizzes have 24-hour time limits, but are due every Sunday at 11:59pm and will close at that time, even if 24 hours have not passed since the student began the quiz.

GIS lab quizzes: There are four lab quizzes after the GIS labs with no time limit. There is also an extra GIS lab setup quiz to prepare for the labs; this is optional but highly recommended for students unfamiliar with the required software. Students should follow the PDF instructions for each lab and answer the lab-related questions completely and accurately to receive full credit on these quizzes.

##### Midterm (20%):

The exam will cover modules 1-8, all content from the modules preceding the exam. The exam is 90 minutes in length and **is open note**. Review of the course notes and PowerPoints is strongly encouraged beforehand due to the time limit. No questions will be asked about the ArcGIS Pro-related tasks. Additional details are available on the Canvas site.

### **Final Assignment (30%):**

The purpose of the Final Assignment is to share your knowledge on a specific topic with your classmates so you would be able to learn more diverse disease problems and their ecological triangles. You will choose any disease problem or any other health-related issue that has NOT been covered in the class. Please follow the instructions provided in Canvas.

Step 1: Topic selection and approval.

Step 2: Final video presentation.

Step 3: Peer review of video presentations (subject to change).

### **Grading Scale**

<b>Letter Grade</b>	<b>Number Grade</b>
A	100-92.5
A-	92.4-89.5
B+	89.4-86.5
B	86.4-82.5
B-	82.4-79.5
C+	79.4-76.5
C	76.4-72.5
C-	72.4-69.5
D+	69.4-66.5
D	66.4-62.5
D-	62.4-59.5
E	59.4-0

See the UF Catalog's "[Grades and Grading Policies](#)" for information on how UF assigns grade points.

*Note: A minimum grade of C is required to earn General Education credit.*

Final grades are determined based on the quality of the assignments submitted. Consequently, a student's time management skills, time spent on assignments, and communication with the instructor when you have questions or concerns regarding quizzes and assignments will impact your success or failure within this course. With this approach of grading on adherence to predetermined standards, there is no preconceived distribution of grades. Everyone or no one can receive an "A." **The official course policy is to not round grades.** Extra credit assignments may be posted at the instructors' discretion only. Any other extra work submitted in order to raise a grade will not be accepted and requests for additional extra credit will not be considered.

#### IV. Calendar

Week	Modules	Dates	Topics	Readings	Assignments
Week 1	Orientation, 1, 2	May 12 - 18	Course Overview	Syllabus, Lab_Setup.pdf	Orientation Quiz & Week 1 Quiz
			Introduction to Medical Geography	Zika Virus news article, Medical Geography web page	Discussion: Introduce Yourself
			Basic Concepts and Principles	On Airs, Waters, and Places, Module 2 Definitions	GIS Lab 1 (+ Lab Setup Quiz)
Week 2	3, 4, 5	May 19 - 25	Measuring Diseases	No Reading	Week 2 Quiz
			Methodology Design	4.1 Where to Find Data for Medical Geography Studies?, Data Analysis of Epidemiological Studies	Discussion: Final Project Topic Selection & Practice
			Inferring Causal Relationships	Data Analysis of Epidemiological Studies	GIS Lab 2

Week 3	Holiday: Memorial Day	Monday, May 26, 2024	Holiday	Holiday	Holiday
	6, 7, 8	May 26 – June 1	Maps and GIS	6.1 Principles of Maps & 6.2 GIS Basics, Spatial Turn in Health Research	Week 3 Quiz
			Vector-borne diseases	Malaria Transmission in the U.S., 7.3-7.5 Mosquito-Borne Diseases, 8.3 RMSF & 8.4 STARI	Discussion: Midterm Study Guide
			Zoonoses	Zoonoses presentation; Chapter 2 – Ecology of Health and Disease, recommended textbook; Paper readings	GIS Lab 3
Week 4	9, 10, 11	June 2 - 8	Midterm Exam (June 2 & 3)		
			Climate Change & Global Health	10.4 Climate Change Case Study #3	Discussion: Case Study #4 Environmental Justice
			Air Pollution and Human Health	11.1-11.3 Air Pollutants and Health, Ghost Factories article	No GIS Lab
			Final Presentation (June 8)		

Week 5	12, 13, 14	June 9 - 15	Spatial Diffusion of Diseases	No readings	Week 5 Quiz
			Human Behavior and Health	No readings	Discussion: Case Study 7: Spatial Disparities in Health Care
			Spatial Disparities in Health Care	No readings	GIS Lab 4
			Final Term Paper (June 15)		
Week 6	Holiday: Juneteenth	Thursday, June 19, 2024	Holiday	Holiday	Holiday
	15	June 16 - 22	Wrap-up	No readings	End of Course (June 22)

## V. University Policies and Resources

### Attendance policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

### Students requiring accommodation

Students who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting

<https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

### **UF course evaluation process**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways:

1. The email they receive from GatorEvals
2. Their Canvas course menu under GatorEvals
3. The central portal at <https://my-ufl.bluer.com>

Guidance on how to provide constructive feedback is available at <https://gatorevals.ua.ufl.edu/students/>. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at <https://gatorevals.ua.ufl.edu/public-results/>.

### **University Honesty Policy**

University of Florida students are bound by the Honor Pledge. On all work submitted for credit by a student, the following pledge is required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Student Honor Code and Conduct Code (Regulation 4.040) specifies a number of behaviors that are in violation of this code, as well as the process for reported allegations and sanctions that may be implemented. All potential violations of the code will be reported to Student Conduct and Conflict Resolution. If a student is found responsible for an Honor Code violation in this course, the instructor will enter a Grade Adjustment sanction which may be up to or including failure of the course. For additional information, see <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.

### **In-class recording**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session.



Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party-note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

### **Procedure for conflict resolution**

Any classroom issues, disagreements or grade disputes should be discussed first between the instructor and the student. If the problem cannot be resolved, please contact Liang Mao ([liangmao@ufl.edu](mailto:liangmao@ufl.edu), [\(352\) 294-7516 \(Office\)](tel:352-294-7516)). Be prepared to provide documentation of the problem, as well as all graded materials for the semester. Issues that cannot be resolved departmentally will be referred to the University Ombuds Office (<http://www.ombuds.ufl.edu>; [352-392-1308](tel:352-392-1308)) or the Dean of Students Office (<http://www.dso.ufl.edu>; [352-392-1261](tel:352-392-1261)).

### **Resources available to students**

#### ***Health and Wellness***

- U Matter, We Care: If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), [352-392-1575](tel:352-392-1575), or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center: [Visit the Counseling and Wellness Center website](#) or call [352-392-1575](tel:352-392-1575) for information on crisis services as well as non-crisis services.
- Student Health Care Center: Call [352-392-1161](tel:352-392-1161) for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).
- University Police Department: Visit [UF Police Department website](#) or call [352-392-1111](tel:352-392-1111) (or 9-1-1 for emergencies).
- UF Health Shands Emergency Room / Trauma Center: For immediate medical care call [352-733-0111](tel:352-733-0111) or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the [UF Health Emergency Room and Trauma Center website](#).
- GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the [GatorWell website](#) or call [352-273-4450](tel:352-273-4450).

#### ***Academic Resources***

- E-learning technical support: Contact the [UF Computing Help Desk](#) at [352-392-4357](tel:352-392-4357) or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).
- [Career Connections Center](#): Reitz Union Suite 1300, [352-392-1601](tel:352-392-1601). Career assistance and counseling services.

- [Library Support](#): Various ways to receive assistance with respect to using the libraries or finding resources. Call [866-281-6309](tel:866-281-6309) or email [ask@ufl.libanswers.com](mailto:ask@ufl.libanswers.com) for more information.
- [Teaching Center](#): 1317 Turlington Hall, Call [352-392-2010](tel:352-392-2010), or to make a private appointment: [352-392-6420](tel:352-392-6420). Email contact: [teaching-center@ufl.edu](mailto:teaching-center@ufl.edu). General study skills and tutoring.
- [Writing Studio](#): Daytime (9:30am-3:30pm): 2215 Turlington Hall, [352-846-1138](tel:352-846-1138) | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.
- Academic Complaints: Office of the Ombuds; [Visit the Complaint Portal webpage for more information](#).
- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): [View the Student Complaint Procedure webpage for more information](#).