



IPEC/GISC 4384.001
Course Health and Environmental Policy/GIS: A Global Perspective
Professor Dohyeong Kim, Ph.D
Term Fall 2017
Meetings Monday & Wednesday 11:30am – 12:45pm
Classroom GR 3.402A&B

Professor's Contact Information

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General Course Information

Pre-requisites & other restrictions	Students must complete at least one of the following courses before taking this course: GEOS 2305, GISC 2305, GEOG 3304, GEOS 3304, GISC 3304, or obtain permission of instructor. Students may need some quantitative skills to analyze global public health and environmental problems, but the level of the analytical components will be determined by the background of the enrolled students.
Course Description	This course covers emerging issues in global health and environmental policy, with special emphasis on applications of Geographic Information System (GIS) and spatial analytic tools in identifying and responding to physical and social environmental risk factors that impact the health and well-being of peoples throughout the world. This introductory but interdisciplinary course examines contemporary issues in global health and environmental policy and practices.
Learning Outcomes	<ul style="list-style-type: none">- Students will understand various social, economic, political and environmental determinants of health, and consider evidences that inequalities in physical and social environments and accessibility to resources influence health status.- Students will also obtain ample hands-on laboratory experiences on how to utilize various geospatial methods such as spatial analysis, modeling and mapping with real-world data using state-of-the-art commercial and open source software.- Students will learn a variety of contemporary global health case studies which focus on content areas such as maternal and child health, environmental health, immunization, infectious diseases, and global healthcare delivery.
Required Texts & Materials	Anthamatten, P. and Hazen, H., <i>An Introduction to the Geography of Health</i> , (New York, NY: Routledge, 2011)
Suggested Texts & Readings*	Lloyd, C., <i>Spatial Data Analysis: An Introduction for GIS Users</i> , (Oxford: Oxford University Press, 2010) R1: Kim, D., Lauria D.T., Whittington D., 2014, "Selecting optimal prices and outpost locations for rural vaccination campaigns," <i>International Regional Science Review</i> , 37:436-458. R2: Kim, D., Overstreet M.A., Hull A., Miranda M.L 2008, "A framework for widespread replication of a highly spatially resolved childhood lead exposure risk model," <i>Environmental Health Perspective</i> , 116(12):1735-1739. R3: Kim, D., Miranda M.L., Tootoo J.L., Bradley P., Gelfand A., 2011, "Spatial modeling for groundwater arsenic levels in North Carolina," <i>Environmental Science & Technology</i> , 45(11):4824-4831. R4: Shim, E., Kim D., Woo H., Cho Y., 2016, "Designing a sustainable noise mapping system based on citizen scientists' smartphone sensor data," <i>PLOS</i>

	<p>ONE, 11(9):e0161835.</p> <p>R5: Kim, D., Seo D., Lee C., 2016, "Food deserts in Korea? A GIS analysis of food consumption patterns at the sub-district level in Seoul using the KNHANES 2008-2012 data," <i>Nutrition Research and Practice</i>, 10(5):530-536.</p> <p>R6: Seo S., Kim D. Min S.*, Paul C.*, Yoo Y., Choung J., 2016, "GIS-based ecological association between ambient air pollutants and atopic dermatitis at the sub-district level in Seoul, Korea," <i>Allergy, Asthma and Immunology Research</i>, 8(1):32-40.</p> <p>*All the reading materials will be posted online. Students are not required to print material available electronically.</p>
Interaction with Instructor	The course web site on eLearning (elearning.utdallas.edu) serves as a main place to download lecture notes, assignments, readings, etc. All the announcements will be posted at eLearning, along with an email to students. Students should interact with the instructor via emails, office hours and in-class discussion.

Assignments & Academic Calendar

These are the planned readings, test dates, and assignment due dates. Always check the online version in eLearning for updates to the schedule.

Week	Dates	Topic/Lab/Assignments	Text/Readings
WK 1	August 21	Course Overview and Requirements	
	August 23	Case Study Presentation (1)	R1, R2, R3
WK 2	August 28	Case Study Presentation (2)	R4, R5, R6
	August 30	Introduction	A&H Ch.1
WK 3	Sept 4	<i>Labor Day: No Class</i>	
	Sept 6	GeoDa/QGIS Overview & Training	
WK 4	Sept 11	Cartography & Visualization of Health Data	A&H Ch.9
	Sept 13	Lab #1: Visualization of Spatial Data	
WK 5	Sept 18	Health & GIS	A&H Ch.10
	Sept 20	Lab #2: Basic Analysis of Spatial Data	
WK 6	Sept 25	Integrating Approaches to the Geography of Health	A&H Ch.11
	Sept 27	Group Project Proposal Presentation (10-min)	
WK 7	Oct 2	Human Health & Environmental Change	A&H Ch.2
	Oct 4	Lab #3: Geocoding & Spatial Data Construction	
WK 8	Oct 9	Demographic Change & Infectious Diseases	A&H Ch.3
	Oct 11	Lab #4: Analysis of Spatial Autocorrelation	
WK9	Oct 16	Environmental Exposures	A&H Ch.4
	Oct 18	Midterm Exam #1 (in-class)	
WK10	Oct 23	Social & Economic Environments	A&H Ch.5
	Oct 25	Lab #5: Analysis of Spatial Association	
WK11	Oct 30	Culture, Identity, Power & Politics of Health	A&H Ch.6-7
	Nov 1	Lab #6: Analysis of Spatial Estimation	
WK12	Nov 6	Guest Lecture	
	Nov 8	Geographies of Healthcare	A&H Ch.8
WK13	Nov 13	Lab #7: Distance-based Spatial Analysis	
	Nov 15	Midterm Exam #2 (in-class)	
WK14	Nov 20-22	<i>Fall Break: No Class</i>	
WK15	Nov 27	Group Project Final Presentation #1	
	Nov 29	Group Project Final Presentation #2	
WK16	Dec 4	Group Project Final Presentation #3	
	Dec 6	Advising for Final Project Report	
WK17	Dec 11	Final Group Project Report Due by 5pm	

Course Rules and Policies

Assignments	<p>Assignments for this course include:</p> <ol style="list-style-type: none"> 1. Class attendance/participation: Engaging in the class discussion and with the readings and exercises is the most effective way to learn. Rather than a mere attendance count, active and reflective participation in all course activities and interaction with other students will be considered as class participation. 2. Midterm exams: The two midterm exams include several short answers and essay questions which check student understanding of the concepts and cases covered in class. 3. Group project presentations: As a core component of learning, students will be assigned to conduct a group research project in replacement of the final exam. Groups will be formed at the first class, including up to 3 members. Each group will be asked to identify a specific issue or problem in global health and environment, analyze the problem using tools and approach discussed in class, formulate possible solutions, and make recommendations applicable to a specific client or actor in the global health and environmental field. Each group should give two oral presentations in class, one for a project proposal (10 minutes) and the other for the final project products (25 minutes). Students will receive feedback from the instructor during the presentations. 4. Final group project report: Based on the comments from the instructor, each group must submit the final project report no later than 5pm on December 11th.
Assignment Rules	<p>Except in unusual circumstances, <u>late assignments will not be accepted</u> because the correct timing of the work is important in the learning process. Any concern on the assignments should be notified to the instructor as soon as possible.</p>
Grading Criteria	<p>Grades will be assigned as follows: Letter grades will be determined based on the overall course average, rounded to the nearest whole number. The grade brackets are as follows:</p> <p>A+: 98-100 A: 93-97 A-: 90-92 B+: 87-89 B: 83-86 B-: 80-82 C+: 77-79 C: 73-76 C-: 70-72 D: 60-69 F: 0-59</p> <p>In determining the course average, assignments will be weighted as follows:</p> <p>Class Attendance/Participation: 10 percent Midterm Exam #1: 20 percent Midterm Exam #2: 20 percent Group Project Proposal Presentation: 10 percent Final Group Project Presentation: 20 percent Final Group Project Report: 20 percent</p>
Incomplete	<p>Generally speaking, the material in this course is best learned as a single unit. I will grant incompletes only in cases where a substantial change in life circumstances occurs that is beyond the control of the student, and only with appropriate documentation. Furthermore, by university policy, an incomplete can only be granted when 70 percent of the coursework has been completed at a passing level.</p>
Comet Creed	<p><i>This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:</i></p> <p><i>“As a Comet, I pledge honesty, integrity, and service in all that I do.”</i></p>
UT Dallas Syllabus Policies and Procedures	<p>The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.</p> <p>Please go to http://go.utdallas.edu/syllabus-policies for these policies.</p>

The descriptions and timelines in this syllabus are subject to change at the discretion of the Professor.