Geography 370 – 006 Introduction to Geographic Information
Spring 2022 (Tuesday-Thursdays, 9:30pm-10:45pm)
Instructor: *Prof. Javier A. Arce-Nazario*
Recitations: sec. 601 Mondays 1:25PM - 2:15PM, and sec. 602 Wednesday 3:35PM - 4:25PM
Office Hours: Tuesdays and Thursdays 2:00-3:00pm and by appointment. In-person (office CH-326) and by Zoom (check Sakai for Zoom link)

Geographic data is everywhere, and it is used across a variety of research areas and business endeavors. This course will introduce you to the tools and methods needed to obtain, manage, interpret and display spatial data.

LEARNING OBJECTIVES
At the end of this class, you will not only know how to create digital geographic information, but you will also know how to look critically at maps and remotely sensed imagery and how to evaluate the sources of data and the assumptions that were used to make them. Your goals should be to:

- understand how geographic data is represented, and be comfortable with the different data models and coordinate systems
- develop a skillset allowing you to design maps and carry out simple spatial analyses
- become proficient in basic operations with GIS/Remote Sensing software tools

RECOMMENDED READING
See course website https://gisunc.github.io/GEOG370Sp2022/

PREREQUISITES
This is an introductory course, so there are no prerequisites. Being patient and open-minded towards computers and technology will make your experience more pleasant.

COURSE WEBSITE
Course information and materials, as well as announcements from the instructors, will be distributed via the UNC Sakai site and the course Github page. These materials will be updated frequently. *You are also expected to check your UNC e-mail and the Sakai Announcements regularly.*

COURSE PLAN

You will be required to read course material and watch videos related to theory and methods. The course webpage has the links to the Sakai resources with the data used in the videos. You need to be able to replicate what is done in the video, otherwise you will not understand how to complete the homework or the tests. The benefit of learning techniques with these step-by-step videos is that you can do them at your own pace and repeat them as many times as you want until you feel comfortable doing the exercise. If you do not practice the videos, do not expect to be able to do the homework or the practical tests. The professor and the TA are always happy to help during recitation/office hours; however you should demonstrate that you

have attempted the videos before you ask for help with the technical aspects of a homework or test.

CLASSROOM ETIQUETE

Follow carefully the UNC Covid standards https://carolinatogether.unc.edu/community-standards/ , especially make sure to wear your mask properly.

Be respectful: please be silent while the professor or another student is speaking. When discussing in small groups, be prepared to quickly return your attention to the professor.

Communicate: Your instructor has a strong Boricua accent, so please feel free to ask him to repeat something if you do not understand him. He will not be offended; it is part of his identity.

Be timely: Please do not arrive late to class, and if you are late, take your seat without disturbing others (arriving more than 15 minutes late is equivalent to missing a session).

REQUIREMENTS & GRADE BREAKDOWN

Tests (30%)
Students will take three tests during the scheduled lecture time covering both the theory and applied techniques. The theory will be assessed using a combination of multiple choice and short-answer questions. Students' comprehension of applied techniques will be evaluated through exercises that require them to create a particular type of map or geographic data analysis, using the techniques presented in class.

Final exam (15%)
During the official final exam time students will be tested on all the theory and applied techniques discussed in class.

Homework and presentations (45%)
Most of the student's comprehension of the material will be assessed through homework which will be shared and presented to the rest of the class. Students will create unique maps or analysis that they will share with other students. This is a very valuable part of the class, as other students learn about data and resources from other students, and the professor learns the interests of the students and can give direct feedback. The instruction and the deadlines for the 10 homework exercises can be found on the course webpage. Turning your homework on time is important, and so 20% will be deducted per day for late submissions. It is important that you verify that you sent (via Sakai) the correct data, and that if you send a link to a homework, that the resources in the link are public and that all the information can be accessed from the web.

At least 50% of your grade will be deducted from your homework if you do not show up to the presentation session. During the presentation session, be ready to explain how you did your homework and discuss the decisions that you made when designing the map.

Participation, leadership and collaboration (10%)
It is expected that students will actively and respectfully participate in the class discussion, recitations and presentations.

Your projects and assignments will be turned in electronically via Sakai. 20% of any assignment's grade will be deducted per day when the assignment is late. If for some reason your health or any other circumstances affect your ability to actively participate, please let the professor know about the situation.

Students taking this course agree to abide by the provisions of the University of North Carolina at Chapel Hill Honor Code.

Final grades will be assigned using the UNC plus/minus letter grade system:
A (93-100) A-(90-92.9) B+(87-89.9) B(83-86.9) B- (80-82.9) C+ (77-79.9) C (73-76.9) C- (70-72.9) D+ (67-69.9) D (60-66.9) F (<60)

Students with disabilities
UNC 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 difficulties with accessing learning opportunities. All accommodations are coordinated through the Accessibility Resources and Service Office (accessibility@unc.edu).

Title IX Resources
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.

Schedule: Check the website for details on each section and deadlines.
https://gisunc.github.io/GEOG370Sp2022/

Day	Activity
Tuesday, January 11, 2022	Introduction to class
Thursday, January 13, 2022	Introduction to data types
Tuesday, January 18, 2022	How we model the world
Thursday, January 20, 2022	Sharing our maps pt1 / Github
Tuesday, January 25, 2022	Sharing our maps pt2 / GPS
Thursday, January 27, 2022	Projections
Tuesday, February 1, 2022	Projections and Georeferencing
Thursday, February 3, 2022	Exercise: georeference UNC maps and create tiles.
Tuesday, February 8, 2022	Webmaps
Thursday, February 10, 2022	Test 1
Tuesday, February 15, 2022	Discuss Test 1 / Tables
Thursday, February 17, 2022	Share your maps / Choropoleths
Tuesday, February 22, 2022	Classification Schemes and Ratios
Thursday, February 24, 2022	Apply classification and ratios to your data
Tuesday, March 1, 2022	Cartography
Thursday, March 3, 2022	Share your maps
Tuesday, March 8, 2022	RECAP
Thursday, March 10, 2022	Test 2
Tuesday, March 15, 2022	Spring Break
Thursday, March 17, 2022	Spring Break
Tuesday, March 22, 2022	Discuss Test 2 / Vector Spatial Analysis
Thursday, March 24, 2022	Vector Spatial Analysis Pt. 2
Tuesday, March 29, 2022	Introduction to Rasters
Thursday, March 31, 2022	Share your maps / Intro to GEE
Tuesday, April 5, 2022	Intro to remote sensing
Thursday, April 7, 2022	Raster Spatial Analysis
Tuesday, April 12, 2022	Test 3
Thursday, April 14, 2022	Topography and elevation models
Tuesday, April 19, 2022	Remote Sensing Presentation
Thursday, April 21, 2022	Remote Sensing Presentation
Tuesday, April 26, 2022	RECAP
Final Exam (Check official calendar)	FINAL EXAM