

GRG 310C: Spatial Data and Analysis

Department of Geography & the Environment, The University of Texas at Austin

Summer 2015

COURSE INFORMATION

Class Meeting Times: Monday, Tuesday, Wednesday, Thursday, and Friday 11:30 AM – 1:00 PM

Location: CLA 1.402

Instructor: Paul Holloway

Office: SAC 4.160 | Email: paul_holloway@utexas.edu | Phone: (+1) 512-232-7336

Office hours: Directly after class or by appointment only

Unique Number: 83530

COURSE DESCRIPTION

The purpose of this course is to introduce you to the practice and theory of the fundamental concepts in spatial data acquisition, analysis, and presentation. We will examine quantitative methods of sampling, representing, classifying and analyzing geographic phenomena. Concepts such as temporal and spatial scale, location, projections, distance and direction will be studied for a broad range of geographic data. At the end of the course, you should be comfortable in taking any of the introductory undergraduate Geography (GRG) techniques courses, and to aid in this, specific reference will be made to how spatial data are used and analyzed within geographic sub-fields, including cartography, geographic information systems (GIS), and remote sensing.

COURSE GOALS

1. To develop quantitative skills required for interpretation and analysis of spatial data.
2. To think critically about issues associated with spatial data and analysis.
3. To understand the basic principles and concepts in the field of Geographic Information Systems (GIS), Cartography, Field Techniques and Remote Sensing.

EXPECTATIONS OF STUDENTS

You are expected to attend classes, participate in discussions, and to read the assigned material. Assignments turned in after the lecture starts will be considered late, and late assignments lose 50% credit per day. The expectation is that each of the assigned readings will be completed before the lecture. The exams will test vocabulary, concepts, theory, and the ability to apply this knowledge to real-world situations and formulate solutions. In-class activities will provide an opportunity for hands-on, interactive learning.

READINGS

There are two recommended textbook for this course. These are listed as a supplement to the course material presented in lectures, and while not required are strongly recommended if you are struggling with the class content.

Peter A. Rogerson, 2010, Statistical Methods for Geography: A Student's Guide 3rd Edition

Andy Mitchell, 2001, The ESRI Guide to GIS Analysis, Volume 1

More available upon request

GRADING AND ASSESSMENT

Final Exam	50%
Mid-Term Exam	25%
Proficiency Exams	10%
Portfolio	15%

The mid-term exam is designed to assess your progress towards course goals, and material will be based on the assigned readings, lectures, PowerPoints, class discussions and projects. The final exam will be a comprehensive assessment of all the course material throughout the semester. The portfolio will be a compilation of in-class projects completed throughout the course. Individually, these are low-stakes interactive activities that will allow you to experiment and delve more deeply into the principles of spatial data and analysis. Proficiency exams are designed to test how well you understand and have internalized the material, and these exams will be unannounced. Final letter grades for the course are assigned by percentages of the total possible points: >93%=A; 90-92.99%=A-; 87-89.99%=B+; 83-86.99%=B; 80-82.99%=B-; 77-79.99%=C+; 73-76.99%=C; 70-72.99%=C; 67-69.99%=D+; 63-66.99%=D; 60-62.99%=D-; <60=F.

COURSE POLICIES

Attendance and Participation: Students are expected to attend every class and actively participate in discussions and in-class projects. There will be no make-up exams or assignments. Extreme situations will be considered if brought to the instructor's attention as early as possible.

Documented Disability Statement: The University of Texas at Austin provides upon request appropriate academic adjustments for qualified students with disabilities. It is the student's responsibility to provide me with their letter from Services for Students with Disabilities (SSD) within one week of receiving it and meet with me at least 10 business days prior to any examinations or projects you require accommodation on. For more information, contact Services for Students with Disabilities at 512-471-6259 or ssd@austin.utexas.edu.

Religious Holy Days: By UT Austin policy, you must provide notification of a pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class day for this reason, you will have an opportunity to complete the missed work within a reasonable time period.

Honor Code: Students are expected to uphold the University of Texas' Academic Honor Code: "As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity."

Intellectual integrity is expected in all work. Collaboration and the use of a wide range of references are encouraged, but any plagiarism, use of un-cited materials, or un-credited project assistance will result in a recommendation of course failure. If you have any questions about what is acceptable and what is not, please ask. Also see: <http://www.lib.utexas.edu/services/instruction/learningmodules/plagiarism/>

Violations of the UT honor code, including cheating or plagiarism, will result in: 1) a zero for the assignment/exam; 2) an assigned 'F' for the final grade; and/or 3) notification to the UT Academic Judiciary Committee for further disciplinary measures.

Use of e-mail for Official Correspondence to Students: E-mail is recognized as an official mode of University correspondence; therefore, you are responsible for reading your e-mail for university and course-related information and announcements. You are responsible to keep the university informed about changes to your email address. You can find UT Austin's policies and instructions for updating your email address here: <http://www.utexas.edu/its/policies/emailnotify.php>.

Behavior Concerns Advice Line (BCAL): If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counselling and Mental Health Centre (CMHC), the Employee Assistance Program (EAP), and the University of Texas Police Department (UTPD). Call 232-5050 or visit <http://www.utexas.edu/safety/bcal>.

Decorum: Computers and phones should be silenced (no vibration or ring). If you take notes on a laptop, the expectation is that you are fully engaged with the class and not reading the news, checking social media sites, doing homework for another class, or otherwise browsing the internet.

COURSE SCHEDULE

Course schedule and order of topics are subject to change based on class progress and interests throughout the semester.

Date	Topics
Week 1 TH 6/4 to F 6/5	Course Intro; The Scientific Method
Week 2 M 6/8 to F 6/12	Descriptive Statistics; Probability
Week 3 M 6/15 to F 6/19	Data Collection; Sampling; Scale
Week 4 M 6/22 to F 6/26	Projections; Spatial Data Properties
Week 5 M 6/29 to F 7/3	Inferential Statistics
Week 6 M 7/6 to TH 7/9	Applications of Spatial Analysis

IMPORTANT DATES

Mid-Term Exam: Monday 22rd June

Portfolio: Wednesday 8th July

Proficiency Exams: Unannounced.

Final Exam: July 10-11 Check with registrar.