

GEOG 683 - Quantitative Geographical Methods

Autumn 2009

Instructor

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Teaching Assistant

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Office Hours: R 2:00-3:00pm and F 9:00-10:00am, or by appointment

Lectures

1080 Derby Hall, Monday and Wednesday 2:30-3:48pm

Labs

0140 Derby Hall, Friday 10:30-12:18pm or 2:30-4:18pm

Course Website

Please check <https://carmen.osu.edu> for lecture notes, lab and homework assignments, and announcements.

Required Textbook

[R] Rogerson, P.A. (2006). *Statistical Methods for Geography: A Student's Guide (Second Edition)*, Sage Publications, London. (ISBN 1-4129-0796-9).

Reference for Labs

Norusis, M.J. (2008). *SPSS 16.0 Guide to Data Analysis (Second Edition)*, Prentice Hall, New Jersey. (ISBN 0-13-606136-2).

Prerequisites

Statistics 145 or 245, or equivalent, or graduate standing in geography, or permission of the instructor.

Course Description and Objectives

This course will provide an introduction to fundamental methods used in quantitative geographic research. The emphasis will be on the statistical analysis of geographic data. The objectives are (1) to introduce students a range of fundamental quantitative approaches in geographic problem solving, (2) to present students real-world examples from a variety of topical areas in geography, and (3) to provide students a basis for understanding more advanced geographic data analysis methods.

Grading Policy

Your final course grade will be based on the following weighting of assessment components:

Class Exercises	15%
Homework	10%
Labs	25%
Midterm Exam	20%
Final Exam	30%

- Class exercises will be frequently given throughout the quarter. They are designed to help you to understand the lecture notes and do well in exams. You will receive credits by showing your efforts, but no make-ups will be given for your absence.
- All assignments (homework and labs) should be turned in on time. Late submissions will NOT be accepted. However, your lowest score will be dropped.
- Students must take all exams to receive credits. No make-up exams will be given unless legitimate documents for medical or personal emergency are presented **prior** to the exams.

Final course grades will be assigned based on the following grading scale:

A: 93–100 | **A-:** 90–92 | **B+:** 87–89 | **B:** 83–86 | **B-:** 80–82 | **C+:** 77–79

C: 73–76 | **C-:** 70–72 | **D+:** 67–69 | **D:** 60–66 | **F:** below 60

Student Responsibility

You are responsible for your own learning. I am here solely to facilitate your learning and understanding of the course materials. I will help you as much as I can, but learning the materials is ultimately up to you. This includes:

- attending class meetings or getting assignments and notes from others if you miss class;
- asking questions when you have them, either in class or out of class;
- doing the assigned homework on time and participating in class exercises;
- contacting me if you have difficulties.

Calculators

A calculator (with statistical functions) may be used for homework and exams. No cell phone calculators will be allowed during exams. (Note: This also applies to PDAs with calculator and/or communication functions.)

Academic Misconduct

Please help us to maintain an academic environment of mutual respect, fair treatment, and personal growth. You are expected to produce original and independent work for exams. Although students are often encouraged to work together on homework and lab assignments, **all students must submit their own written work in their own words.** Academic misconduct will not be tolerated and will be dealt with procedurally in accordance with University Rule 3335-31-02. (This policy can be found at <http://oaa.osu.edu/procedures/1.0.html>.)

Cell Phones

Cell phones must be either turned off or put on vibrate during class, as cell phones ringing during class disrupt the learning process. Additionally, no cell phone calculators will be allowed on any exams in the course. (Note: This applies also to PDAs with communication capabilities.)

E-mail

In order to protect your privacy, all course e-mail correspondence must be done through a valid OSU name.number account. If you have not activated your OSU email account, you can activate your account at <https://acctmgt.service.ohio-state.edu/cgi-in/KRB1EntryAdd>.

Students with Disabilities

All students who feel they may need accommodations based on the impact of a disability should contact the instructor privately to discuss their specific needs. Students with documented disabilities must also contact the Office of Disability Services (ODS) in 150 Pomerene Hall (614-292-3307) to coordinate reasonable accommodations for the course. ODS forms must be given to your instructor as early in the quarter as possible to be filled out and returned to you.

Course Policy on Unpaid Fees and Students Not Registered

If your fees are unpaid or if you are not officially registered for the course, you should not be attending class. Students with unpaid fees at the time of the first exam need to talk to me as soon as possible in order to continue their attendance. Students who are not registered in the course need to work out their registration issues in order to continue their attendance.

Receiving an ‘I’ for the Course

You cannot receive an incomplete for the course unless 70% of the work in the course has been completed. Extenuating circumstances will be handled on a case-by-case basis.

Tentative Course Schedule

Week	Date	Topics	Readings	Labs
1	09/23	Introduction	[R] 1	
2	09/28	Basic terms and notations	[R] Appendix B, C	Lab 1
	09/30	Geographic data	[R] 2.1	
3	10/05	Special issues of geographic data	[R] 1.7	Lab 2
	10/07	Descriptive statistics	[R] 2	
4	10/12	Geospatial information technologies		Lab 3
	10/14	Probability (I)	[R] 3	
5	10/19	Probability (II)	[R] 4	Lab 4
	10/21	Sampling	[R] 5.7	
6	10/26	Midterm Exam: 2:30 – 3:48 PM		Lab 5
	10/28	Estimation	[R] 5.1~5.2	
7	11/02	Hypothesis testing (I)	[R] 5.3~5.6	Lab 6
	11/04	Hypothesis testing (II)	[R] 5.3~5.6	
8	11/09	Analysis of Variance	[R] 6	Lab 6
	11/11	No class (Veterans’ Day)		
9	11/16	Correlation	[R] 7	Lab 7
	11/18	Regression (I)	[R] 8	
10	11/23	Regression (II)	[R] 9	Lab 7
	11/25	Spatial autocorrelation	[R] 10.3.2	
11	11/30	Spatial pattern analysis	[R] 10	Lab 7
	12/02	Review		
12	12/09	Final Exam: 1:30 – 3:18 PM		

Note: This schedule is subject to change. Please check Carmen frequently for changes.