

Quantitative Geography :: GEO 5165C-01 :: Fall 2007
TR: 12:30 p.m. – 1:45 p.m. :: Bellamy Building Room 35

CONTACT INFORMATION

Professor James B. Elsner, Bellamy Building, Room 310
Office Hours: R 1:45 p.m.– 3:00 p.m. (or by appointment)
Office Phone: 644-8374
Email: jelsner@fsu.edu
[Blackboard](#)

COURSE MATERIALS

[R](#) on a desktop or laptop computer.

COURSE DESCRIPTION

Many of the problems and issues facing our world today, including environmental quality, housing, agricultural production, transportation, and the value of real estate, have quantitative geographic dimensions. Knowledge about quantitative methods can provide essential skills for real-world problem solving. In this course we learn about and learn how to use statistical methods for analysis and modeling of geographic data.

COURSE OBJECTIVES & EXPECTATIONS

To improve your ability to:

- Link statistics with real-world problems,
- Learn how to use a powerful open-source statistical program,
- Understand basic statistical concepts,
- Synthesize the parts of a statistical study, and
- Communicate statistical results in a clear and concise manner.

I will give you as much "hands-on" experience as possible. I will orient the course toward application and away from theory and derivation of the underlying mathematics. I will provide the necessary course material on Blackboard. There is no need to purchase a textbook, but I expect students to use the internet and library for additional help. I expect students to have some background in basic statistical concepts such as means, standard deviations, and the normal distribution. Some course time will be devoted to unsupervised computer work. All computer work will be done using R.

COURSE GRADING & POLICIES

Grades are determined by 2 midterm exams, each worth 30% of your grade and 10-15 assignments cumulatively worth 40%. The second midterm exam will be given during the final exam week. Attendance is expected, but not required. Late assignments are deducted by 10%. An assignment is late if not returned before one class period of the due date. There are no make-up exams.

GRADING STANDARDS ON EXAMS & ASSIGNMENTS

Grade Score Standard

A	93-100	Outstanding: Few if any errors/omissions
B	85-93	Good: Only minor errors/omissions
C	75-85	Satisfactory: Minor omissions, a few major
D	65-75	Poor: Several major errors/omissions
F	< 65	Fail: Many major errors/omissions

ACADEMIC HONOR CODE

AMERICANS WITH DISABILITIES ACT

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; (2) bring a letter indicating the need for accommodation and what type. This should be done during the first week of classes.

SYLLABUS CHANGE POLICY

This syllabus is a guide for the course and is subject to change with advanced notice.

SCHEDULE

Wk	Day	Date	Topic
1	Tuesday	August 28	Downloading & Starting R
	Thursday	August 30	R Basics
2	Tuesday	September 4	No Class (travel)
	Thursday	September 6	No Class (travel)
3	Tuesday	September 11	Summarizing Data
	Thursday	September 13	Means, Variances, & Correlation
4	Tuesday	September 18	Graphs & Plots
	Thursday	September 20	Graphs & Plots
5	Tuesday	September 25	Probability & Distributions
	Thursday	September 27	Probability & Distributions
6	Tuesday	October 2	Data Modeling
	Thursday	October 4	No Class (travel)
7	Tuesday	October 9	Linear Regression
	Thursday	October 11	Linear Regression
8	Tuesday	October 16	No Class (travel)
	Thursday	October 18	Linear Regression
9	Tuesday	October 23	Linear Regression
	Thursday	October 25	Midterm Exam
10	Tuesday	October 30	Multiple Regression
	Thursday	November 1	Multiple Regression

- 11 Tuesday November 6 Multiple Regression
Thursday November 8 Regression Trees
- 12 Tuesday November 13 Regression Trees
Thursday November 15 Logistic Regression
- 13 Tuesday November 20 Logistic Regression
Thursday November 22 **No Class (Thanksgiving)**
- 14 Tuesday November 27 Poisson Regression
Thursday November 29 Poisson Regression
- 15 Tuesday December 4 Geographically Weighted Regression
Thursday December 6 Geographically Weighted Regression

REFERENCE MATERIAL

- Crawley, M.J., 2007: *The R Book*, John Wiley & Sons.
- Dalgaard, P., 2002: *Introductory Statistics with R*, Springer.
- Maindonald, J.H., 2004: [Using R for Data Analysis and Graphics: Introduction, Code and Commentary](#).
- Murrell, P., 2006: *R Graphics*, Chapman & Hall/CRC.
- Tufte, E.R, 2001: *The Visual Display of Quantitative Information*, 2nd Ed., Graphics Press.
- Verzani, J., 2004: *Using R for Introductory Statistics*, Taylor & Francis.
- [R Reference Card](#).