

CAMOSUN COLLEGE GEOGRAPHY 216
Quantitative Methods in Geography
Course Outline, Winter 2005

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COURSE DESCRIPTION:

This course introduces students to the basic principles relating to the collection, measurement, analysis and presentation of geographic data. Students learn how geographers use statistics to address the problems of space, place, distribution, and location. The course combines lecture and lab sessions; students will learn both methodology and application.

Lectures will be based upon, but not limited to, the assigned textbook. The emphasis of lecture coverage will be on foundation building for advanced spatial analysis.

LEARNING OPPORTUNITIES:

Lectures: There will be two hours of lecture per week in Fisher 338. The lecture period will include overheads and lecture material. In addition there will be an in-class problem session to further expand the concepts. A calculator will be useful for the in-class problem solving.

Labs: Lab sessions are held in the Camosun general computing lab room E103 on Wednesdays. All labs are computer based. Lab sessions will be weekly.

There are marked five labs in the course. Each lab contains exercises to familiarize students with different aspects of spatial statistics used in geography. Attendance during lab periods is mandatory. In the case of illness, the instructor must be contacted prior to the class time and an alternate arrangement must be made; otherwise, a mark of zero will be assigned. All labs are due one week from the lab period, except where noted. Each lab is worth 5%. Unmarked labs are due the day of the exercise.

Research project: There is one independent research project during the course. The research project is worth 20% of your final mark. More information on the assignment will be made available in your lab sessions. Each student will create a research question, develop a hypothesis, collect secondary data, use methods and applications learned in class to analyze the data. Each student will submit a 4-5 page type written report (1,200 words) with additional pages in the form of appendices of all calculations and with a disc of the data used in the analysis.

It is expected that there will be time during the lab sessions for students to do some of the research and data analysis for the project. There will be 4 periods of lab time devoted to the project. That said students should be prepared to spend additional time in the lab and library to prepare the full report.

Your data research project must be typed in the format that is provided to you. Failure to follow procedure will result in your project being returned for revision, and your project will then be marked as late when resubmitted at a rate of 1% out of 20% per day.

Examinations: There is one midterm exam during the term. The final exam will be in the exam period, April 18 – 23, 2005. The midterm is worth 25 % of your final mark. The midterm will focus on the chapters and lab exercises preceding the exam. The final will be worth 30 % and is cumulative. The final will include problem sets based on lab exercises and data from the textbook.

EVALUATION:

Lab Exercises	25%
Research Project	20%
Midterm Exam	25%
Final Exam	30%
Total	<hr/> 100%

TEXTBOOK:

Required Textbook:

McGrew, J. Chapman and C. B. Monroe, *An Introduction to Statistical Problem solving in Geography*, 2nd Edition.

There are two versions of the textbook available; the newest edition is sold by the bookstore but, since it is an expensive hardcover, you are welcome to use second-hand copies of the old edition. See me for the chapters with changes. I have also requested that a copy of the textbook be placed on reserve in the library for your use.

Additional material:

I have requested a few copies of SPSS for students to be sold in the bookstore. If you have difficulty making the lab sessions or feel you need more time than you can get in the Camosun student labs, I recommend that you purchase and use this software. All data material will be usable on this student version of the software.

GRADING:

The standard grading scale of the Division of Arts and Science will be used for this course.

A+	>95%	B-	70-74%
A	90-94%	C+	65-69%
A-	85-89%	C	60-64%
B+	80-84%	D	50-59%
B	75-79%	F	<50%

Lab Materials

I will make lab materials available the class before the lab session. If you are not at lecture you are responsible for getting a copy of the lab before the lab begins.

Please read your lab exercise over **before** coming to class. There will be a short introduction to the lab but you will benefit more by having read the material prior to doing the lab.

Your labs are due one week otherwise noted on the lab. **Labs that are late will be deducted at 10% per day.** You will need to bring pencil, eraser, ruler and a calculator for lab periods. The labs do not need to be typed. That said your handwriting must be legible for me to mark your other labs.

Session Notes

You are requested to attend each day as a lot of material is covered. Outline notes for each lecture will be made available on the class website: <http://griffiths.disted.camosun.bc.ca/>. No lecture notes will be made available, if you are not able to make a class you must make arrangements ahead of time for what will be covered.

You are responsible for reading your text. I will draw from the text but will also present other material in the lecture. Your text should be used as a base on which you build other knowledge. Examinations will look to the text for basic concepts. Lecture, assignments, and labs will provide more specific information and examples that will be on the exams.

COURSE SCHEDULE

Date	Wk	Lecture (Mon)	Lab (Wed)	Other
Jan 10, 12	1	Lecture / Course outlines Introduction to Geographic Data	No Lab - protocols and procedures	
Jan 17, 19	2	Geographic Data - Types and measurements	Intro to SPSS	Chapter 1
Jan 24, 26	3	Geographic Data	Entering your own data set (to hand in, not marked), internet data searches	Chapter 2
Jan 31, Feb 2	4	Descriptive Statistics	Lab 1: Descriptive statistics	Chapter 3
Feb 7, 9	5	Descriptive Spatial Statistics	Lab 2: Spatial Descriptive Statistics	Chapter 4
Feb 14, 16	6	Probability, Review	Lab 3: Probability: PPT / location and rainfall	Chapter 5
Feb 21, 23	7	Mid - Term Exam	Go over mid-term. Project data week, looking for data and how to write a report	
Feb 28, Mar 2	8	Regression	Project day - (project hypothesis and data set due)	Chapter 13
Mar 7, 9	9	Correlation	Lab 4: Correlation and Regression	Chapter 14
Mar 14, 16	10	Sampling and estimation (a little)	Project day: first data set on disk, descriptive statistics write-up	Chapter 6 / 7
Mar 21, 23	11	Introduction to Inferential statistics	Sampling lab, (to be handed in but unmarked)	Chapter 8
Mar 28, 30	12	Sample tests and Goodness of Fit	Project day - samples and maps	Chapter 9-11
Apr 4, 6	13	Inferential Spatial Statistics	Lab 5: Inferential Statistics	Chapter 12
Apr 11, 13	14	Project day	Review Project due	