

**The University of Western Ontario**  
**Department of Geography**  
**Geography 3210A: Quantitative Analysis in Geography**

	<b>Lectures</b>	<b>Labs</b>
<b>Locations:</b>	<b>SSC 3014</b>	<b>SSC 1425</b>
<b>Day:</b>	<b>Tuesday</b>	<b>Tuesday</b>
<b>Hours:</b>	<b>4:30-6:30 PM</b>	<b>7:00-9:00 PM</b>

**Prerequisite:** Geography 2210A/B

**Antirequisite:** All other senior level statistics courses numbered 2000 or above

"Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites."

**Web site:** <http://publish.uwo.ca/~jmalczew/3210.htm>

### ***Instructor Information***

Name: Jacek Malczewski

Contact information:

**Office:** Room 2422 SSC

**E-mail:** [jmalczew@uwo.ca](mailto:jmalczew@uwo.ca)

**Phone:** 661-2111 ext. 85030

**Office hours:** Monday 1:30 - 2:30 pm  
Tuesday 3:30 - 4:30 pm  
and by appointment

**Teaching Assistant: TBA**

### ***Course Syllabus***

**Course description:** "Simple parametric and nonparametric statistical methods through multiple regression are introduced. Exploratory data analysis techniques are examined as a supplement to more traditional statistical methods. Geography specific techniques are also presented".

**Goal:** To extend the knowledge gained in Geog 2210a/b regarding the nature of geographical data and the application of statistical techniques and computing systems to spatial analysis.

Attendance at lecture class is optional, but highly recommended. The course material is cumulative. You should review lectures and readings weekly (do not expect success if you only study and practice before exams!). Missing a

single lecture may, therefore, be critical. It is the student's responsibility to cover any material missed by failure to attend lectures. Although mathematical detail is not emphasized, competence in simple mathematical notion and arithmetic manipulation are fundamental. Attendance at lecture class is optional, but highly recommended. Computations will be performed with computers or manually. SPSS for Windows (PASW Statistics) will be the main computer program used in the course. In addition to the instructor and TA there is consultant's help available in SSDL (consultant in room 1004, and demonstrator in room 1032) on use of computers and IBM SPSS Statistics. However, it is **not** within the consultant's job description to help you with the labs themselves.

### SCHEDULE OF CLASSES

Date	Lecture topic	Lecture notes	Required readings
11/09/12	<b>Introduction: course outline</b>		
18/09/12	<b>1. Exploratory data analysis</b>	Lecture 1/Part 1	Rogerson: Chapter 1-2, pp. 1-52
25/09/12	No class (field camps)		
02/10/12	Exploratory data analysis (con.)	Lecture 1/Part 2	
09/10/12	<b>2. Comparing means</b>	Lecture 2/Part 1	Rogerson: Chapter 3, 53-55 Chapter 4, 83-88 Chapter 5, 107-156
16/10/12	Comparing means (con.)	Lecture 2/Part 2	Rogerson: Chapter 6, 157-166
23/10/12	<b>3. Non-parametric tests</b>	Lecture 3	Rogerson: Chapter 6, 167-182
30/10/12	<b>4. Multiple Regression</b>	Lecture 4	Rogerson: Chapter 8-9, 201-242
<b>06/11/12</b>	<b>Mid-term test</b>		
13/11/12	Multiple Regression (con.)		
20/11/12	<b>5. Logistic Regression</b>	Lecture 5	Rogerson: Chapter 9, 242-256
27/11/12	Logistic Regression (con.)		
04/12/12	Synthesis		
<b>TBA</b>	<b>Final exam</b>		

### Course Materials

**Required textbook:** Rogerson, P. A. (2010) *Statistical Methods for Geography: A Student's Guide*. SAGE Publications. Third Edition. pp 368. Paperback ISBN: 9781848600034 (The textbook is available in the BookStore)

### Methods of Evaluation

#### LAB SCHEDULE

Lab #	Section	Date	Topic	Due date	Section

<b>1</b>	<b>A</b>	<b>Oct. 2</b>	<b>Exploratory data analysis</b>	<b>Oct. 16</b>	<b>A</b>
	B	Oct. 9	Exploratory data analysis	Oct. 23	B
<b>2</b>	<b>A</b>	<b>Oct. 16</b>	<b>Comparing means</b>	<b>Oct. 30</b>	<b>A</b>
	B	Oct. 23	Comparing means	Nov. 6	B
<b>3</b>	<b>A</b>	<b>Oct. 30</b>	<b>Nonparametric tests</b>	<b>Nov. 13</b>	<b>A</b>
	B	Nov. 6	Nonparametric tests	Nov. 20	B
<b>4</b>	<b>A</b>	<b>Nov. 13</b>	<b>Multiple regression</b>	<b>Nov. 27</b>	<b>A</b>
	B	Nov.20	Multiple regression	Dec. 4	B
<b>5</b>	<b>A</b>	<b>Nov. 27</b>	<b>Logistic regression</b>	<b>Dec. 11</b>	<b>A</b>
	B	Dec. 4	Logistic regression	Dec. 11	B

Attendance at labs is **mandatory** and absence will be **penalised by deduction of 2% of the total course mark** for each lab missed. Each exercise will have a due date and should be handed in to your TA during the respective lab session. **Assignments handed in after this time will not be accepted.** Medical and compassionate grounds, accomplished by suitable documentation, may be accepted as justification for late assignment submission. Labs must be stapled securely, and clearly labelled with your name, student number. Labs must be typed or hand-written legibly. Computations will be performed using IBM SPSS Statistics.

**Your final grades will be based on composite performances for the following:**

Mid-term Test (open-book, 60 min., Nov. 6, 2012)	30%
Final Exam (open-book, cumulative, 2h., date: TBA)	45%
Assignments (5 assignments at 5% each)	25%

The test and exam are designed to assess individual competence in course material. The focus is on material covered in lectures and labs.

The mid-term test consists of a 60 min in-class evaluation using multiple-choice, short-answer questions, statistical calculations and interpretation of SPSS outputs.

A restricted open-book format applies; only a calculator, textbook and lecture notes can be used in the test and exam. The level and intensity of questions posed will reflect this facility. Checking formulae and tables is practical, but it will not be possible to look up answers to all questions in the available time. A calculator is essential for the mid-term test and final exam.

In accordance with university policy, missed tests and exams cannot be made up except on written medical grounds and notification prior to test/exam date (see <http://counselling.ssc.uwo.ca/procedures/examinations.asp> ).

For UWO Policy on Accommodation for Medical Illness and a downloadable SMC see:

[http://www.uwo.ca/univsec/handbook/appeals/accommodation\\_medical.pdf](http://www.uwo.ca/univsec/handbook/appeals/accommodation_medical.pdf)

Downloadable Student Medical Certificate (SMC):

<https://studentservices.uwo.ca> under the Medical Documentation heading

Students seeking academic accommodation on medical grounds for any missed tests, exams, participation components and/or assignments worth

10% or more of their final grade must apply to the Academic Counselling office of their home Faculty and provide documentation. Academic accommodation cannot be granted by the instructor or department.

## ***Additional Statements***

### **Statement on Use of Electronic Devices**

No electronic devices will be allowed during tests and examinations.

### **Statement on Academic Offences**

"Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

<http://www.uwo.ca/univsec/handbook/appeals/scholoff.pdf> ."

"All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com> )."

"Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating."

### **Western's commitment to accessibility**

The University of Western Ontario is committed to achieving barrier free accessibility for persons studying, visiting and working at Western. Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.

### **Support Services**

Registrarial Services: <http://www.registrar.uwo.ca/>

Student Development Services: <http://www.sdc.uwo.ca/>

Social Science Academic Counselling: <http://counselling.ssc.uwo.ca/>