

Statistics 9924a : Advanced Regression

September 2013

Instructor Information

Instructor	R Kulperger
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Course Information

Course description	This course begins with a review of multiple linear regression, including parameter estimation, testing, influence and multicollinearity diagnostics. The remainder of the course will serve as introduction to generalized linear models, generalized additive models, and smoothing methods such as spline smoothing and kernel smoothing.
Prerequisites	Basic knowledge of probability and statistics. A course in regression is recommended but not required.

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. You can be deregistered at any time even after writing the final exam. 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

Lecture Times	Monday, Wednesday 3:30 - 5 PM, WSC 248
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Text

Simon Wood (2006) Generalized Additive Models, Chapman and Hall.

Course Objectives

The objectives of this course are to familiarize the student with the essential techniques of regression analysis and to introduce the students to some of the more recently developed methods in the area, including spline and kernel regression as well as generalized additive models. Additional topics will be chosen from the following: classification and handling of missing data, errors in variables, quantile regression and multicollinearity.

Assessment

Assignments and/or Quizzes

There will be 3 assignments in this course as well as a project and one presentation. The sections of Chapter 5 deal with specific data analysis examples. Students will be assigned one of these sections

and will be responsible to prepare a 25 minute lecture based on the section. Reference to some material in Chapter 4 may be required in order for the example to be understandable, so this material should also be incorporated into the lecture as necessary.

Midterms or Tests

There will be two midterm exams in this course.

Final Exam

There will not be a final examination.

Evaluation

Assignments	15%
Midterm Exams	60%
Project	15%
Presentation	10%

Department Policy on Missed Course Requirements

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to your Dean's office as soon as possible, and contact your instructor immediately. If accommodation is approved by your Dean's office, your instructor will be notified, then it is your responsibility to make alternative arrangements with your instructor. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. For further information please see: http://www.stats.uwo.ca/accommodation_medical.pdf. A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility. The form can be found at: <http://www.stats.uwo.ca/medicalform.pdf>. A student may also request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services.

Missed Midterm or Test: The policy of the department of Statistical and Actuarial Sciences is that there will be no make-up exams for a missed midterm. For those that do legitimately miss a midterm and provide the required supporting documentation, the standard practice will be that the weight of the midterm will be reassigned to the final exam. If your reason is not deemed valid, then you will receive a mark of 0.

Email Communication

You are welcome to communicate with your instructor by email, but email communication should only be used to provide them with information or to ask a question that requires a brief response. For more lengthy discussions and for discussions on lectures/course material please see your instructor during their scheduled office hours or by appointment. If you do email them, please use your UWO account, as these are often the only emails read (as emails sent from other addresses often get spammed).

Attendance

Classroom attendance is viewed as an important part of the learning process. Students are advised that excessive absenteeism may result in the student being disbarred from the final exam (see Western Academic Calendar).

Classroom Environment

The Department has adopted a "Mutual Expectations" policy governing the classroom environment and all work submitted by students. The full text of the policy can be found at: [http:](http://)

[//www.stats.uwo.ca/mutual_expectations.pdf](http://www.stats.uwo.ca/mutual_expectations.pdf). In summary, the policy was developed under the premise that all interactions between students and faculty should be governed by the principles of courtesy, respect and honesty.