

## **PS600 COURSE OUTLINE-INTRO TO LINEAR MODELS**

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### **Evaluation:**

25% Labs/Quizzes (weekly using desire to learn software-late assignments will not be marked resulting in zero grade)

25% midterm

50% Final Exam

Course Notes: Free on the web <http://web.wlu.ca/bgebotys/index.html>

### **Approximate Lecture Guide**

**Week 1 -**, Review SPSS - web- descriptive statistics  
sampling distribution for a statistic, inference, hypothesis  
testing, confidence intervals, z, t,F distribution,  
introduction to the linear model, residuals.

**Week 2** Linear model, inference, parameters residuals,  
confidence intervals, R-squared, tests of hypothesis -prediction  
intervals.

**Week 3**Polynomial models, transformation of  
variables - influence diagnostics, leverage,  
Cooks D.

**Week 4** Models with interactions - concept of  
interaction as differences of differences.  
Models with several variables intro

**Week 5** Models with several variables, dummy variables for qualitative variables, complex models, large real life example

**Week 6** Comparisons of different models - the ANOVA technique and sums of squares  
Principal , nested models and tests of significance.

**Week7** Variable selection techniques available on SPSS- stepwise, backward, forward, etc. –Multi-collinearity  
- VIF and tolerance.

**Week 8** Correlation and partial correlation techniques and applications.

**Week 9** reliability, cronbachs alpha split half, questionnaire design

**Week 10** validity, factor analysis for questionnaire design

**Week 11** Transformations of variables to linearize models, special models for binary data -logistic regression

**Week 12** Review.

**Other Information- Please see next page**

## **Important Information for Students**

### **New Course Drop Dates 2012/2013:**

Please refer to the Undergraduate Academic Calendar - Academic Dates 2012-2013 – For details of course add/drop dates, etc.

### **Examination Deferrals:**

The Academic Date section of the Calendar (Web Site Version) clearly states the examination date period for each semester. **Students must note that they are required to reserve this time in their personal calendars for the examinations. The examination period for this school year is: Fall Term: 6 –19 December; Winter Term: 11 – 30 April.** Students who are considering registering to write MCAT, LSAT or GMAT or a similar examination, should select a time for those examinations that occurs outside the University examination period. For additional information that describes the special circumstances for examination deferment, consult the University calendar.

### **Student Awareness of the Accessible Learning Office:**

Students with disabilities or special needs, are advised to contact Laurier's Accessible Learning Office for information regarding its services and resources. Students are encouraged to review the Calendar for information regarding all services available on campus.

### **Academic and Research Misconduct:**

Academic misconduct is an act by a student, or by students working on a team project, which may result in a false evaluation of the student(s), or which represents a deliberate attempt to unfairly gain an academic advantage, where the student either knew or ought reasonably to have known that it was misconduct. Please refer to the University Calendar Web Site for further clarification of academic and research misconduct.

### **Plagiarism Detection Software:**

Wilfrid Laurier University uses software that can check for plagiarism. Students may be required to submit their written work in electronic form and have it checked for plagiarism.

### **Learning Services:**

Please go to the Learning Services webpage for detailed information at [www.wlu.ca/learningservices](http://www.wlu.ca/learningservices). The Learning Services office is located in the Dr. Alvin Woods Building, south entrance off the parking lot. They are on the main floor, in room 1-102.

### **Laurier Email Account:**

Students are expected to regularly check their Laurier email account for important notices from the university community. Students are also expected to send emails to official members of the university community from their Laurier email account in order to ensure delivery.