

STAT 3000
Applied Linear Statistical Models
Term 1 2009/10

- Instructor:** David Loewen
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- Office Hours:** M & W: 1:30 – 2:30 Th 10:00 – 11:00, by appointment or whenever I am in.
- Web Page:** <https://angel.cc.umanitoba.ca/default.asp>
Some information will be posted on the web for your convenience. It is not intended to be complete. You will still be responsible for any information/announcement given in the class.
- Text:** *Applied Statistics Analysis of Variance and Regression (Third Edition)* by Ruth Mickey, Olive Dunn and Virginia Clark. Wiley 2004. ISBN 0-471-37038-X
- Reference:** *Applied Linear Statistical Models with Student CD (Fifth Edition)* by M.H. Kutner, C.J. Nachtsheim, J. Neter and W. Li. McGraw Hill 2004. ISBN 0-07-310874-X
Student Solutions Manual is included in compact disk for use by students. The disc also includes all data set files from the text.

An Introduction to Statistical Methods and Data Analysis (Sixth Edition) by R. Lyman Ott and Michael Longnecker. Brooks/Cole 2010. ISBN-10: 0495017582
Note: This book can be purchased electronically, complete or by chapter.
- Computer Package:** Statistical software packages are usually needed to perform the necessary calculations for regression analysis. Almost every statistics computer package contains a regression component. From your STAT 1000 and 2000 courses, you know how to use the *JMP 6 SE* package for regression. *JMP 8* is available on the ANGEL website and can be downloaded to your computer to complete the assignments.
- Assignments:** There will be 5 assignments during the term.
Assignments are due at the beginning of class on the day assigned.
All your assignments should be done on 8.5 x 11 paper using **one** side only.
Late assignments WILL NOT BE ACCEPTED.
- Term Test:** There will be a term test on Nov 3, 2009 in the class time slot.

Marking Scheme: Assignments: 15%
Term Test: 35%
Final Exam: 50%
Regardless of term marks, minimum marks will be required on the test and the final exam to get grades of C or D.

Voluntary Withdrawal: The voluntary withdrawal date is **November 18, 2009** by which time you will have received your marks for the midterm test and probably 4 assignments.

Academic Dishonesty: I wish to draw your attention to the sections in *The University of Manitoba General Calendar 2008-2009* dealing with academic dishonesty, including plagiarism, cheating, and examination impersonation.

Course Contents: (re text chapters)

1. **Data Screening**
2. **One-Way Analysis of Variance**
3. **Estimation and Simultaneous Inference**
4. **Nested Design**
5. **Two Crossed Factors: Fixed Effects and Equal Sample Sizes**
6. **Randomized Complete Block Design**
8. **Crossed Factors: Mixed Models**
10. **Linear Regression: Fixed X Model**
11. **Linear Regression: Random X Model and Correlation**
12. **Multiple Regression**
14. **Miscellaneous Topics in Regression**
15. **Analysis of Covariance**

2009–2010 REGISTRATION ADVISORY

Important Note from the Dean of Science:

It is your responsibility to ensure that you are entitled to be registered in this course. This means that you have:

- the appropriate prerequisites, as noted in the calendar description, or have permission from the instructor to waive these prerequisites;
- not previously taken, or are concurrently registered in, this course and another that has been identified as “not to be held with” in the course description. For example, STAT 1000 cannot be held for credit with STAT 2220.

The registration system may have allowed you to register in this course, but it is your responsibility to check. If you are not entitled to be in this course, you will be withdrawn, or the course may not be used in your degree program. There will be no fee adjustment. This is not appeal able. Please be sure to read the course description for this and every course in which you are registered.