

**University of Manitoba
Department of Statistics**

**STAT 3480
Statistical Methods for Research Workers II
Winter 2010**

Instructor	Dr. Zenaida F. Mateo Office: 319 Machray Hall Phone: 474-6707 E-mail: zeny_mateo@umanitoba.ca	
Office Hours:	Monday and Wednesday from 1:00 pm-2:30 pm or by appointment	
Course Website:	University of Manitoba "JUMP" course web. Note: Information like announcements, class notes will be posted on the <i>jump portal</i> for your convenience.	
Departmental Webpage	http://www.umanitoba.ca/statistics/	
Textbook (required)	Applied Linear Statistical Models with Student CD (Fifth Edition) by Kutner , CJ. Nachtsheim, J. Neter, and W. Li. MacGraw- Hill 2004. ISBN 0-07-310874-X Note: A copy of the textbook is available in the Science library.	
Study Guide	Student Solution Manual is included in compact disk for use by students. The disc also includes all data set files from the text.	
Computer Package	The software SAS or JMP can be used to complete the assignments.	
Marking Scheme	Assignments	15%
	Midterm Test	35%
	Final Exam	50%
Reminders on Assignments	There will be five (5) assignments for the whole term. All your assignments should be written on 8.5 X11 paper, using one side only and should be properly stapled at the left corner. Answer the questions in the given order. Late assignments will NOT be accepted . Messy assignments or those with poor handwriting will be returned with a mark of "0".	

Test and Exam

There will be a term test on **March 2, 2010 (Tuesday)** during **class hour** i.e **11:30 pm - 12:45 pm**.

Reminders on Test and Exam

Non- programmable calculators are allowed
Formula sheet and statistical tables will be provided if required.

Academic Dishonesty

Although you are certainly encouraged to work on assignments in small groups and help each other, you are expected to produce your own individual assignment. Plagiarism and other forms of cheating are subject to serious academic penalties. We wish to draw your attention to the university policy on academic dishonesty including “plagiarism and cheating” and “examination impersonation” as outlined in *The University of Manitoba Undergraduate Calendar*. For details see <http://umanitoba.ca/science/student/webdisciplinedocuments.html>

Voluntary Withdrawal Date

The voluntary withdrawal date is **March 19, 2010** by which time you will have received your marks for the midterm test and probably 3 assignments.

Calendar Description:

Analysis of variance, completely randomized designs, randomized complete block, interaction, factorial arrangement of treatments, and analysis of covariance.

Topics to be covered:

The following is a non-exhaustive list of the topics to be covered. Most of them are covered in the text. Some sections maybe covered only when time permits.

Design of Experiments

General principles and concepts of experimental designs , Completely randomized designs, randomized complete block design, Nested designs, Latin square, factorial designs, split-plot designs Characteristics, issues, procedures, advantages and disadvantages

Analysis of variance (ANOVA)

ANOVA model formulation and tests

Fixed, random and mixed effects
Single factor, two or more factors
Interaction and no-interaction models
Contrasts and multiple comparison procedures, regression approaches
Diagnostic and remedial measures, residual analysis, data transformation

Analysis of covariance
Single factor and multifactor covariance analyses
Completely randomized designs, randomized complete block issues and practical consequences
Latin Square Design (if time permits)