

STAT 3480
Statistical Methods for Research Workers 2 (A01)
Winter Term 2012

Class Time Tuesday / Thursday 11:30 a.m. - 12:45 p.m.)
Location 115 Armes
CRN 20159

Instructor Dr. Saman Muthukumarana
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Office Hours Monday 10:30–11:30
Wednesday 2:00–3:00
Friday 10:30–11:30
(Or by appointment.)

Calendar Description Analysis of variance, randomized block design, nested and Latin square experiments, analysis of covariance. Not to be held with the former STAT 3130 (005.313).

Prerequisite STAT 3470 (005.347) (C).

Course web site Course materials are posted on the UoM JUMP portal.
(<https://jump.umanitoba.ca/>)

Textbook A First Course in the Design of Experiments: A Linear Models Approach by Donald C. Weber and John H. Skillings, CRC Press (2000).

Computing We will be using SAS statistical software throughout the course and familiarity with SAS is a course objective.

Grading Scheme The final grade will be determined as follows.

Assignments	10%
Mid-term Test	30%
Project	10%
Final Examination	50%

Assignments Assignments are due at the beginning of class on the due date. Late assignments will not be accepted. You are encouraged to discuss assignments with your classmates and me, but final submission must be written independently. Do not copy any part of another student's work or computer code. There will be zero tolerance on such incidences.

Midterm Test The tentative date for in-class mid-term test is **February 28, 2012**. There will be no makeup midterm for any reason. If you miss the exam due to a legitimate reason, your exam weight will transfer to the final exam.

Final Exam The final exam covers all course materials and will be 2 hours in length.

Project The project can be undertaken with a classmate (or classmates). The project is used to enhance several skills that you will need in your future courses and career. At some point, I will contact everyone in the class (as groups) to discuss a potential project. This project work will include a data analysis using SAS.

Class Attendance We will have in-class activities that will help you to understand the material. I will also introduce and discuss SAS codes for most of the in-class examples. So I encourage you to attend classes regularly to avoid falling behind. The final exam will also resemble in part on problems discussed during classes.

Course Outline The course aims to provide a solid understanding of the concepts of Design and Analysis of Experiments including following areas.

- Review: Design and Analysis of Experiments (Chapter 1)
- Completely Randomized Designs (Chapter 7)
- Multiple Comparisons (Chapter 8 and 9).
- Randomized Complete Block Design (Chapter 10)
- Latin Squares Designs (Chapter 12)
- Factorial Experiments with Two Factors (Chapter 13)
- Analysis of Covariance (Chapter 15)
- Random and Mixed Effects Models - if time permits. (Chapter 16)

Voluntary Withdrawal The voluntary withdrawal deadline is **March 16, 2012**.

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 an appropriate permission from the instructor to waive these prerequisites;
- have 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.

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 appealable. Please be sure to read the course description for this and every course for which you are registered.

Pandemic Advisory Should major disruptions to university activities occur as a result of a pandemic, the course content, marks breakdown, and other provisions of this document may be adjusted as the circumstances warrant.

Academic Dishonesty You are expected to be familiar with what constitutes academic dishonesty and its consequences. Academic dishonesty is a serious offence and can be severe as suspension or expulsion from the University. More details of these terms and related issues are available at:
www.umanitoba.ca/science/undergrad/resources/webdisciplinedocuments.html.