University of Regina
Statistics 352–Advanced Mathematical Statistics

Section: 001
Lecture: TuTh 1130–1245 in Centre for Kinesiology, Health & Sport, room 166 (CK 166).

Professor: Michael Kozdron
Office: College West 307.31
Phone (Office): 585-4885
Phone (Home): (306) 699-2369
Email: kozdron@stat.math.uregina.ca
Home Page: `http://stat.math.uregina.ca/~kozdron/Teaching/Regina/352Winter08/`

Office Hours: M 1130–1220, F 1330–1530, or by appointment.

Required Texts:

- William M. Bolstad, *Introduction to Bayesian Statistics*, Wiley, 2004.

Other Texts:

- Andrew Gelman, John B. Carlin, Hal S. Stern, and Donald B. Rubin, *Bayesian Data Analysis*, Chapman Hall/CRC, 2000.
- Peter M. Lee, *Bayesian Statistics: An Introduction*, second edition, Arnold, 1997.

Library Holdings:
Use the Archer Library search *Subject Browse = Bayesian statistical decision theory* to display the library's 87 books in this area.

Prerequisites:
STAT 252 and STAT 351 with grades of at least 60%.

Student Responsibilities:
Students should familiarize themselves with both the *Responsibilities of Students* in Section 5.1, and the *Responsibilities of Instructors* in Section 5.2, on pages 29–30 of the *Undergraduate Calendar*. Especially note item 7 which states that: Instructors are expected to conduct their courses in such a way as to obtain evidence of student writing skills, in term papers, essays, reports, or other written work, and to demand competence in writing for a passing grade.

Grading Information:
Your final grade will be determined by your performance in the course, including assignments, participation and office visits, the midterms, and the final exam. Students should consult Section 5.10.1 on *Grading Descriptions* on pages 31–32 of the *Undergraduate Calendar* for an outline of the expectations associated with various percentage grades.

Evaluation Type	Number	Percentage of Final Grade
Assignments	10	20%
Laboratory Sessions	2	0%
Midterm Exams	2	35%
Final Exam	1	45%

Caveat: In order to receive a final grade of at least 60% for the course, it is necessary (but not sufficient) to receive a grade of at least 60% on the final exam.

Policy for Missed Classes, Missed Midterm, and Missed Final Exam:
Students should familiarize themselves with the sections *Attendance* (Section 5.3, page 30) and *Deferrals* (Section 5.8, pages 30–31) of the University of Regina *Undergraduate Calendar*.

Keeping Up-to-Date:
This is a course in Bayesian statistical methodology. As an applied statistics class there will be frequent use of statistical software, and students will be expected to use both R and MAPLE to complete their assignments. A theoretical aspect to several problems will serve to complement the applied focus of the course. Consequently, it is vital that students read the appropriate textbook sections before and after each lecture, and attempt the relevant homework problems. Keeping up-to-date with the material is essential!

Assignments:
As is the norm in a university-level course, it is not possible to cover all of the required material in lecture. As a result, each student must take an active rôle in his or her own education. Mathematics and Statistics are not spectator sports. They cannot be learned passively only by watching the instructor lecture. Instead they must be learned by doing. Consequently, most of what you learn in this course will be the result of working exercises that are designed to reinforce key concepts, develop skills, and test your understanding of the material. Before you try working the exercises, however, do the reading assignment. Reading the text will help you review the important concepts before you start on the exercises. After each class meeting, you should work all problems assigned from the section discussed that class. Assignments will take on the average 10–12 hours. You are encouraged to talk with your classmates about the homework; you might even want to form a study group to work together on the most difficult homework problems. However, all problems you submit must be your own work. ***It is dishonest, and a serious University of Regina violation, to submit someone else's work as your own.***

Laboratory Sessions:
Students are required to attend two separate laboratory sessions during the first few weeks of classes. Failure to attend will result in a final grade of NP being assigned.

Midterm Exams:
There will be two major term tests, called *midterm exams*, that will be given during the semester. The midterms will be closed-book, although one page of handwritten notes will be allowed. Each exam will be comprehensive, and cover all the material listed on the syllabus before that midterm, including lectures, assigned readings, and assignments.

Final Exam:
As with the midterm exams, the final exam will be closed-book, although one page of handwritten notes will be allowed. The final exam will be comprehensive and cover all of the material listed on the syllabus, including both lecture work and assigned readings.

Exam Dates:
The midterms will be held in class during the usual class time, and the location of the final exam will be determined by the Registrar near the end of the term.

- Midterm Exam #1: **Tuesday, February 12, 2008, 11:30–12:45**
- Midterm Exam #2: **Thursday, April 3, 2008, 11:30–12:45**
- Final Exam: **Tuesday, April 15, 2008, 9:00–12:00**

Web Site:
I have written a web site for this section. The URL is

`http://stat.math.uregina.ca/~kozdron/Teaching/Regina/352Winter08/`

I will be updating this site throughout the term and you will be able to download any handouts that you don't get in class.

Email:
Email will be a significant form of course related communication between both students and the instructor. Therefore, please check your email regularly for course updates and homework/midterm information. Feel free to email your questions to me. I will endeavour to respond within 24 hours. Should you not receive a reply within 24 hours, try sending the message again, or ask me in person if I received your mail.

Academic Integrity:
For a university community of scholars, academic integrity is the heart of intellectual life—both in learning and in research.

Students should read carefully the University of Regina guidelines on *Student Behaviour* in Section 5.14, pages 31–34 of the *Undergraduate Calendar*, and not assume they understand what integrity and cheating are and are not. Academic integrity most certainly implies more at the university than it did in high school. The standards of integrity are those that prevail in professional life. Students must acknowledge and cite ideas they adopt from others (not just direct quotations), and understand the general standards and policies of academic integrity, as well as specific expectations in individual courses. When in doubt, ask!

Students should also consult the pamphlet *Academic Integrity* published by the University Secretary, or contact that office for more information.