UNIVERSITY OF CALGARY

Faculty of Science

DEPARTMENT OF MATHEMATICS AND STATISTICS

Course Information Sheet

1. **Course**: STATISTICS 217 **Term:** Summer 2003
   Lecture/Time/Session: L60 MWF 14:00-15:40 **Room:** MS 527
   Instructor: Nancy Morrison
   Office: MS 368 **Office Hours:** MWF 13:00-13:50 **Email:**morrison@math.ucalgary.ca **Phone:** 220-8213
   Suggested Text: Statistics 9th edition McClave, Sinich

2. **Prerequisites:** Stat 213 or consent by the department

   NOTE: The Faculty of Science policy on pre- and co-requisite checking is outlined on page 210 of the 2002-2003 Calendar. **It is the students' responsibility to ensure that they have the pre- and co-requisites for the course, and if they do not they will be withdrawn from the course without notice.**

3. **Fee policy:** After the last day to drop/add courses, there will be no refund of tuition fees if a student withdraws from a course, courses or the session.

4. **The University policy on grading and related matters** is described on pages 44-53 of the 2002-2003 Calendar. In determining the overall grade in the course, the following weights will be used:

Mid-term Test	[**1**]	**15**%
Quizzes	[**5**]	**40**% [best 4 of 5]
Final Exam		**45**%

   A passing grade on any particular component of the course is essential to passing the course as a whole. There will be a final examination scheduled by the Registrar's Office. One aid sheet is permitted.

5. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are outlined on page 211, of the 2002-2003 Calendar. It is the student's responsibility to familiarize herself/himself with these regulations.

6. **Academic misconduct** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the 2002-2003 University Calendar under the heading "Student Misconduct", pages 53-56.

7. **Dates and times of class exercises held outside of class hours (evening tests, Saturday laboratory examinations, weekend field trips, etc.):** There will be no out-of-class-time activities.

STATISTICS 217
"STATISTICAL METHODS II"
SPRING 2003
SYLLABUS

NOTE: All quizzes will be written in the lab. No formula sheets permitted for the quizzes.
Midterm will be written in class.
Final will be arranged by the registar's office. One standard sized formula sheet permitted.

Schedule for quizzes and midterm

Quiz 1 July 15th
Quiz 2 July 22nd
Quiz 3 July 29th
Midterm August 1st
Quiz 4 August 5th
Quiz 5 August 12th

In order to write a missed quiz or midterm due to an illness, a valid letter from a physician must be presented as soon as possible. The quiz or midterm must be written before they are passed back otherwise that quiz is taken as the one (out of the five) that is dropped.

Topics Covered

(1) Normal Distribution: Basic introduction to using Normal tables and calculating outcome frequencies and probabilities. Central Limit theorem. Using z and t tables.
(2) Confidence intervals for the means, proportions. Required sample sizes for given interval width.
(3) Introduction to hypothesis testing. Acceptance and rejection regions. P-values Type I and Type II error. Hypothesis about the means and proportions including Student T- test. Power function of test involving the mean and proportion.
(4) Hypotheisis testing and confidence interval for the variance, chi-squared distribution.
(5) Comparison of two population standard deviations (or varicances). Comparisons of two population means and two population proportions including paired Student T-test. Confidence intervals for the difference of two sample means and proportions.
(6) Comparison of 3 or more population means. One-way and two-way ANOVA.
(7) Non-Parametric tests. Wilcoxon signed rank test , Mann-Whitney test , Kruskal-Wallis Test.
(8) Chi-squared goodness of fit test. Tests of homogeneity, independence and contingency tables.
(9) Linear regression model, scattergrams, Least Squares Method. Estimation of the intercept and slope, confidence intervals and tests. Regression ANOVA and the F- test. Coefficients of correlation and determination. Predictions and their confidence intervals.