

THE UNIVERSITY OF CALGARY
 FACULTY OF SCIENCE
 DEPARTMENT OF MATHEMATICS & STATISTICS
Course Information Sheet

Course	STAT 213: INTRODUCTION TO STATISTICS I	Session	Winter 2006
Lecture	L09 MWF 9-9:50 am	Room	SA 104
Tutorials	R 12-12:50 pm F 10-10:50 am	Rooms	MS 515, MS 521
Instructor	Alex R. de Leon		
Email	adeleon@math.ucalgary.ca		
Office	MS 554	Phone	220-6782
Office Hours	Whenever I'm in my office or by appointment		
Prerequisites	Math 30 or Pure Math 30		

NOTE: The Faculty of Science policy on pre- and co-requisite checking is outlined on page 193, of the 2005-2006 Calendar. **It is the students' responsibility to ensure that they have the prerequisite for the course, and if they do not, they will be withdrawn from the course without further notice.**

- 1 Fee Policy:** After the last day to drop/add courses (**April 13**, Thursday), there will be no refund of tuition fees if a student withdraws from a course, courses or the session.
- 2 Grading:** The University policy on grading and related matters is described on pages 43-44 of the 2005-2006 Calendar. In determining the overall grade in the course, the following weights will be used:

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

The final examination will be scheduled by the Registrar's Office.

- 3 Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are outlined on page 194 of the 2005-2006 Calendar. It is the student's responsibility to familiarize himself/herself with these regulations.

A student who missed the midterm test shall have the weight of his/her midterm test transferred to the final test. A student who missed a quiz shall have his/her lowest quiz grade doubled to make up for the missed quiz.

- 4 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 2005-2006 University Calendar under the heading "Student Misconduct", pages 52-56.

- 5 Required Text:**

Introduction to the Practice of Statistics (Fifth Edition)
 by Moore, D. S. & McCabe, G. P.
 Freeman, 2005.

A website is available at <http://bcs.whfreeman.com/ips5e/default.asp>. The website contains a wealth of useful information and supplementary materials for the course, including sample test questions.

- 6 **Quizzes:** Five 45-minute quizzes will be administered during the Lab Sessions. The course material has been divided into 5 general topics, which will constitute the scope of the five quizzes. Any necessary clarification regarding the topic for a particular quiz will be discussed during the lecture immediately preceding the quiz. The schedule is shown in Table 2.

Calculators and statistical tables may be used when writing quizzes. However, students are encouraged to use MINITAB provided in the lab computers. The use of any other materials (e.g., books, notes, formula sheets) is not permitted. This includes the use of emails and the Internet.

- 7 **Major Tests:** There will be 1 *mid-term test* to be written during a lecture period and a 2-hour *final examination* to be scheduled by the Registrar. The schedules are displayed in Table 1.

Calculators may be used for the mid-term test and final examination. A *formula sheet* and necessary statistical tables will be provided for both tests.

- 8 **Tutorials:** Daytime *continuous tutorials* are held Mondays thru Fridays, 11 am-2 pm. The tutorials provide a study space, access to computers with various statistical software packages, and an opportunity for students to receive one-one-one assistance with any aspect of the course from the tutor on duty.

- 9 **Dates to Remember:**

January 9, 2006	<i>First lecture class</i>
January 19, 2006	<i>First lab session</i>
February 13, 2006	<i>Mid-Term Test</i>
February 19-26, 2006	<i>Reading Week (No Classes)</i>
April 7, 2006	<i>Last lab session</i>
April 12, 2006	<i>Last lecture class</i>
	<i>Last day to withdraw from Winter Session classes</i>

- 10 **Tentative Course Outline:** The schedule of lectures and the breakdown of course material are shown in Table 1. Table 2 shows the plan for the lab/tutorial sessions.

- 11 **Supplementary Course Materials:** *Worksheets* will be made available. Worksheets are a selection of relevant problems from the textbook concerning the topic. The textbook may be purchased with the MINITAB software and a manual to go with it. A *Sample Mid-Term Test* and a *Sample Final Examination* will be provided as well. Please visit the course blackboard for announcements regarding these.

Solutions to the worksheets and quizzes/tests will be posted on the course blackboard.

Table 1: *Tentative STAT 213 L09 Course Outline*

Lecture	Date	Readings	Topics
1	M Jan 9	—	Preliminaries
2	W Jan 11	§ 1.1	Variables, histograms, boxplots
3	F Jan 13	§ 1.2	Data summaries, averages, dispersion measures
4	M Jan 16	§ 1.2	More on data summaries
5	W Jan 18	§ 1.3	Normal distributions, normal tables
	F Jan 20	§ 1.3	More on normal table calculations
6	M Jan 23	§ 2.1,2.2	Scatterplots, correlations
7	W Jan 25	§ 2.3,2.4	Least-squares regression
	F Jan 27	§ 2.1-2.4	More on regression & correlation
8	M Jan 30	§ 3.1,3.2	Data collection, randomized experiments
9	W Feb 1	§ 3.3	Random sampling
10	F Feb 3	§ 4.1,4.2	Randomness, probability
11	M Feb 6	§ 4.2	Examples on probability calculation
12	W Feb 8	§ 4.3	Random variables (RVs)
13	F Feb 10	§ 4.4	Means & variances of RVs
	M Feb 13		Midterm Test
	W Feb 15	§ 4.4	More on expectations of random variables
14	F Feb 17	§ 4.5	Conditional probability, Bayes' rule
Feb 19-26: READING WEEK			
	M Feb 27	§ 4.5	More on Bayes' rule
15	W Mar 1	§ 3.4	Sampling distributions, bias & variability
16	F Mar 3	§ 5.2	Central limit theorem (CLT), law of large numbers
	M Mar 6	§ 5.2	Applications of CLT
17	W Mar 8	§ 5.1	Sampling distribution of proportions
	F Mar 10	§ 5.1	More on sample proportions
18	M Mar 13	§ 6.1	Estimation, confidence intervals
	W Mar 15	§ 6.1	More on confidence intervals
	F Mar 17	§ 6.1	Examples on confidence intervals
19	M Mar 20	§ 6.2	Tests of significance
	W Mar 22	§ 6.2	More on significance tests
	F Mar 24	§ 6.3	Statistical significance
20	M Mar 27	§ 6.4	Power of tests, Types I & II errors
21	W Mar 29	§ 6.2	z -tests, examples
22	F Mar 31	§ 7.1	t -distribution, t -tables
	M Apr 3	§ 7.1	t -tests & confidence intervals
	W Apr 5	§ 7.1	Examples on t -tests
23	F Apr 7	§ 7.1	Robustness of t -tests & confidence intervals
	M Apr 10	§ 5.6	More examples
24	W Apr 12	§ 5.4	Course wrap-up

Table 2: *STATISTICS 213 L09 Tentative Lab Session Plan*

Lab Session	Dates	Topics
1	R Jan 19	Intro to MINITAB
	F Jan 20	Intro to MINITAB
2	R Jan 26	Worksheet 1
	F Jan 27	Worksheet 1
3	R Feb 2	Quiz 1
	F Feb 3	Quiz 1
4	R Feb 9	Worksheet 2
	F Feb 10	Worksheet 2
5	R Feb 16	Quiz 2
	F Feb 17	Quiz 2
6	R Mar 2	Worksheet 3
	F Mar 3	Worksheet 3
7	R Mar 9	Quiz 3
	F Mar 10	Quiz 3
8	R Mar 16	Worksheet 4
	F Mar 17	Worksheet 4
9	R Mar 23	Quiz 4
	F Mar 24	Quiz 4
10	R Mar 30	Worksheet 5
	F Mar 31	Worksheet 5
11	R Apr 6	Quiz 5
	F Apr 7	Quiz 5