

Faculty of Science
DEPARTMENT OF MATHEMATICS AND STATISTICS
Course Information Sheet

1. STATISTICS 211 - Concepts of Statistics - Fall 2007

Lecture	Days	Time	Location	Instructor	Office	Phone
L01	MWF	11:00	ST 143	P. Ehlers email: ehlers@math.ucalgary.ca	MS 564	220-3936
T01	T	10:00	MS 569	P. Ehlers		
T02	T	10:00	MS 319	P.T. Wong email: piktan@math.ucalgary.ca	MS 326	
T03	T	11:00	MS 569	P. Ehlers		
T04	T	11:00	MS 319	P.T. Wong		

2. Prerequisites: Mathematics 30 or equivalent

NOTE: The Faculty of Science policy on pre- and co-requisite checking is outlined in the current University Calendar (see www.ucalgary.ca/pubs/calendar) *Faculty of Science, section 5C*. **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responsibility to ensure that they have the pre- and co-requisites for the course, and if they do not they will be withdrawn from the course without notice.**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. **Academic Accommodations:** It is the student's responsibility to request academic accommodations. A student with a documented disability who may require academic accommodation must register with the Disability Resource Centre to be eligible for formal academic accommodation. DRC registered students are required to discuss their needs with the instructor no later than fourteen (14) days after the start of this course.

5. **The University policy on grading and related matters** is described in the current University Calendar, *Academic Standings*. In determining the overall grade in the course, the following weights will be used:

Quizzes – best 4 of 5	25%
Mid-term exam	25%
Final Exam	50%

There will be a final examination scheduled by the Registrar's Office. Exams and quizzes will be closed book. Calculators are permitted for arithmetic calculations. Tables will be provided.

6. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are outlined in the current University Calendar, *Faculty of Science, section 6A*. It is the student's responsibility to familiarize herself/himself with these regulations.

7. **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 current University Calendar. See: <http://www.ucalgary.ca/honesty/>

8. ****THERE WILL BE NO OUT-OF-CLASS-TIME ACTIVITY.****

9. Textbook

Statistics, Third Edition, by Freedman, Pisani and Purves, W.W. Norton & Co. Publication.

10. Academic Schedule

September 10	Monday	Lectures begin
September 11	Tuesday	No tutorials
October 9	Monday	Thanksgiving Days – No lectures
November 2	Friday	Mid-term Examination
November 10 - 13	Saturday to Tuesday	Reading week – No lectures
December 7	Friday	Last day of lectures.
December 10 - 19	Monday - Wednesday	Final Examination Period

10. Quiz Schedule

September 25	Tuesday	Quiz 1
October 9	Tuesday	Quiz 2
October 23	Tuesday	Quiz 3
November 20	Tuesday	Quiz 4
December 4	Tuesday	Quiz 5

11. Course Content

Part I.	Design of Experiments Chapter 1. Chapter 2.	Controlled Experiments Observational Studies
Part II.	Descriptive Statistics Chapters 3-6.	Histogram, Averages, Standard Deviation, Normal, Measurement Error.
Part IV.	Probability Chapters 13-15.	Chance, Binomial
Part V.	Chance Variability Chapters 16-18.	The Law of Averages, Expected Value, Normal Approximation to Probability Histograms.

Part VI.	Sampling Chapters 19-21, 23.	Sample Surveys, Chance Error in Sampling, The Accuracy of Percentages and Averages.
Part VII.	Chance Models Chapter 24.	Model for Measurement Error
Part VIII.	Test of Significance Chapters 26, 27 (sections 1 & 2), 28, 29.	Tests of Significance, including the t-Test, Chi-square Test
Part III.	Correlation and Regression Chapters 8, 9, 10 (sections 1-4).	

12. Attendance

It is important to attend all lectures and tutorials; this course, like other mathematics and statistics courses, makes use of earlier material in following chapters. Do not fall behind in this class.

13. Support Materials

On non-quiz tutorials, worksheets will be handed out with problems to work on during the tutorial period. The text has solutions to exercises, except for the Review Exercises. Solutions to most of these are available for purchase from the Bound and Copies Store, lower floor, MacEwan Student Centre.

14. Other Help

Office hours: Mondays 14:30 – 16:00, or you may make an appointment or send email.

15. Nature of the Course

There are some mathematical aspects to this course, but the emphasis will not be on proofs and memorization of formulas. Rather, the emphasis will be on understanding concepts and real life applications, the models that underlie statistical inference and thinking about statistical issues. Examples show how statistics has been used to help solve problems in many fields.

16. Exercises for *Statistics*, Third Edition, by Freedman, Pisani and Purves

Read Chapters 1 & 2	Exercise Set A, page 20	#1 - 7, 9, 10, 13
	Review Exercise , page 24	#5, 6, 9
Read Chapter 3	Exercise Set A, page 33	#2 – 7
	Exercise Set B, page 38	#1, 2
	Exercise Set C, page 41	#1, 2, 4
	Exercise Set D, page 44	#1
	Exercise Set E, page 46	#1
	Review Exercise , page 50	#8, 10

Read Chapter 4	Exercise Set A, page 60	#2, 4 - 6, 8
	Exercise Set B, page 65	#1 - 5
	Exercise Set C, page 67	#2 - 4
	Exercise Set D, page 70	#3, 4, 6, 9, 10
	Exercise Set E, page 72	#1, 3 - 5, 8, 11, 12
	Review Exercise , page 74	#4, 7
Read Chapter 5	Exercise Set A, page 82	#2
	Exercise Set B, page 84	#1, 4
	Exercise Set C, page 88	#2
	Exercise Set D, page 89	#5
	Exercise Set E, page 92	#1, 2
	Review Exercise , page 93	#1, 8, 9, 11
Read Chapter 6	Review Exercise , page 104	#3, 4
	Special Review Exercises , page 105	#2, 9, 10
Read Chapter 13	Exercise Set A, page 225	#1 - 3, 5
	Exercise Set B, page 227	#1 - 4
	Exercise Set C, page 229	#1 - 4, 7
	Exercise Set D, page 232	#1, 3, 5
	Review Exercise , page 234	#2, 3, 6, 7, 12
Read Chapter 14	Exercise Set A, page 240	#3, 4
	Exercise Set B, page 242	#2 - 4
	Exercise Set C, page 245	#1 - 4
	Exercise Set D, page 250	#3 - 5
	Review Exercise , page 252	#3 - 6, 10
Read Chapter 15	Exercise Set A, page 258	#3 - 5
	Review Exercise , page 261	#2, 4, 9, 10
Read Chapter 16	Exercise Set A, page 277	#1 - 7
	Exercise Set B, page 280	#2, 4
	Exercise Set C, page 284	#1, 2
	Review Exercise , page 285	#3, 4, 6, 8
Read Chapter 17	Exercise Set A, page 290	#1, 3
	Exercise Set B, page 293	#1, 3, 4
	Exercise Set C, page 296	#4 - 6
	Exercise Set D, page 299	#3
	Exercise Set E, page 303	#2, 5
	Review Exercise , page 304	#2, 4, 5, 11
Read Chapter 18	Exercise Set A, page 312	#2, 3, 5
	Exercise Set B, page 318	#3
	Exercise Set C, page 324	#2, 5, 6
	Review Exercise , page 327	#2, 4, 11
Read Chapter 19	Exercise Set A, page 349	#4, 5, 8, 12
	Review Exercise , page 351	#4, 5, 9
Read Chapter 20	Exercise Set A, page 361	#2, 4
	Exercise Set B, page 366	#1, 3
	Exercise Set C, page 370	#1, 2, 4
	Review Exercise , page 371	#3, 6, 7, 12

Read Chapter 21	Exercise Set A, page 379	#4, 7, 8
	Exercise Set B, page 383	#2, 3
	Exercise Set C, page 386	#4 – 7
	Exercise Set D, page 388	#2
	Exercise Set E, page 390	#2
	Review Exercise , page 391	#1, 2, 9, 14
Read Chapter 23	Exercise Set A, page 413	#4, 5, 9
	Exercise Set B, page 420	#4, 5, 7
	Exercise Set C, page 423	#2, 3, 6
	Review Exercise , page 425	#1 – 5
	Special Review Exercises , page 428	#1, 5, 13, 18, 25, 30
Read Chapter 24	Exercise Set A, page 444	#3, 4
	Exercise Set B, page 449	#5
	Exercise Set C, page 452	#1, 4, 7
	Review Exercise , page 455	#1, 2, 9
Read Chapter 26	Exercise Set A, page 478	#4, 5
	Exercise Set B, page 479	#5
	Exercise Set C, page 482	#1, 2, 4
	Exercise Set D, page 484	#2, 3
	Exercise Set E, page 487	#7 – 9
	Exercise Set F, page 495	#4 – 7
	Review Exercise , page 497	#2, 4, 9
Read Chapter 27 - Sections 1 & 2	Exercise Set A, page 505	#6
	Exercise Set B, page 508	#3
Read Chapter 28	Exercise Set A, page 533	#4 - 7
	Exercise Set C, page 541	#2
	Review Exercise , page 543	#2, 3, 7
Read Chapter 8	Exercise Set A, page 122	#5, 6
	Exercise Set B, page 128	#1, 7, 8
	Exercise Set C, page 131	#3
	Exercise Set D, page 134	#1 (a)
	Review Exercise , page 134	#1, 7, 10
Read Chapter 9	Exercise Set A, page 143	#2 - 5, 7
	Exercise Set B, page 145	#3
	Exercise Set C, page 148	#1
	Exercise Set D, page 150	#2
	Exercise Set E, page 152	#3
	Review Exercise , page 153	#2, 4, 8
Read Chapter 10	Exercise Set A, page 161	#2, 3
	Exercise Set B, page 163	#1
	Exercise Set C, page 167	#1
	Exercise Set D, page 174	#1
	Review Exercise , page 176	#2, 4, 7