

COURSE OUTLINE

WINTER 2013

1. STAT 213 - Introduction to Statistics I

Lecture	Days	Time	Location	Instructor	Office	Phone	Email
Lec 2	MWF	15:00	ST 143	M. Fenyvesi	MS 468	220-3965	fenyvesi@ucalgary.ca
Lab09	R	15:00	MS 515	B. Wu	MS 354	220-3943	bewu@ucalgary.ca
Lab10	R	15:00	MS 521	S. Gelfand	MS 389	220-3949	sgelfan@ucalgary.ca
Lab11	R	16:00	MS 515	B. Wu	MS 354	220-3943	bewu@ucalgary.ca
Lab12	R	16:00	MS 521	S. Gelfand	MS 389	220-3949	sgelfan@ucalgary.ca

2. Prerequisites: Pure Mathematics 30 or Mathematics II (offered by Continuing Education).

(see Section 3.5C of Faculty of Science www.ucalgary.ca/pubs/calendar/current/sc-3-5.html and Course Descriptions: www.ucalgary.ca/pubs/calendar/current/course-desc-main.html)

3. Grading: The University policy on grading and related matters is described in sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course, the following weights will be used:

Quizzes [best 3 of 4]	30%
Mid-term exam [1]	20% [Friday, March 1]
Final Exam	50% (To be scheduled by Registrar)

The various components above will be assigned a percentage score and will be combined with the indicated weights to produce an overall percentage in the course. The conversion table between course percentage and letter grade will be provided at least one week before the withdrawal deadline.

A passing grade in the Final Examination is essential for an overall grade of C- or better.

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

4. 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 3.6.*

www.ucalgary.ca/pubs/calendar/current/sc-3-6.html. It is the student's responsibility to be familiar with these regulations. See also www.ucalgary.ca/pubs/calendar/current/e-3.html

5. There are no out of class scheduled activities.

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME ACTIVITY. If you have a conflict with any out of class time activity, please inform your instructor at least one week in advance of the activity so that other arrangements may be made for you.

6. Textbook.

Introduction to the Practice of STATISTICS 7th ed., Moore/McCabe/Craig (W.H. Freeman & Co.)

7. Examination policy: Exams and quizzes will be closed book. Calculators are permitted for arithmetic calculations only. Tables will be provided. Students should also read the Calendar, Section G, on Examinations: www.ucalgary.ca/pubs/calendar/current/g.html

8. OTHER IMPORTANT INFORMATION FOR STUDENTS

- (a) **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 University Calendar under K. Student Misconduct (<http://www.ucalgary.ca/pubs/calendar/current/k.html>) to inform yourself of definitions, processes and penalties.
- (b) **ASSEMBLY POINTS** in case of emergency during class time. Be sure to **FAMILIARIZE YOURSELF** with the information at <http://www.ucalgary.ca/emergencyplan/assemblypoints>.
- (c) **ACADEMIC ACCOMMODATION POLICY.** Students with documentable disabilities are referred to the following links: Calendar entry on students with disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html>
Disability Resource Centre: <http://www.ucalgary.ca/drc/>
- (d) **SAFEWALK:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call **220-5333** for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **FREEDOM OF INFORMATION AND PRIVACY:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, **students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page.** For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **STUDENT UNION INFORMATION:** VP Academic **Phone:** 220-3911 **Email:** suvpaca@ucalgary.ca.
SU Faculty Rep. **Phone:** 220-3913 **Email:** sciencerep@su.ucalgary.ca **Website** <http://www.su.ucalgary.ca/>
Student Ombudsman: <http://www.ucalgary.ca/provost/students/ombuds>
- (g) **INTERNET and ELECTRONIC COMMUNICATION DEVICE Information.** You can assume that in all classes that you attend, **your cell phone should be turned off.** Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

9. Academic Schedule

January 8	Tuesday	Lectures begin
January 18	Friday	Last day to drop courses, No refunds after this date
January 21	Monday	Last day to add/swap courses
January 25	Friday	Fee deadline
February 17 – 24	Sun-Sun	Reading Week – no lectures
March 1	Friday	Midterm examination
March 29	Friday	Good Friday – University closed
April 16	Tuesday	Last day of lectures
April 19-30	Fri-Tue	Final Examination Period

10. Quiz Schedule

January 31	Thursday	Quiz 1
February 14	Thursday	Quiz 2
March 21	Thursday	Quiz 3
April 4	Thursday	Quiz 4

11. Continuous Tutorial Schedule - MS 571

The tutorial part of this course is held in room, MS 571, which is equipped with computers. Drop in for individual assistance with the course material.

Hours of Operation:

Monday:	12:00 – 14:00
Tuesday:	11:00 – 14:00
Wednesday:	12:00 – 14:00
Thursday:	11:00 – 14:00
Friday:	12:00 – 14:00

12. Minitab

Lab rooms (MS515/521) and the Continuous Tutorial room (MS 571) are equipped with computers which have the Statistical package 'Minitab'. This will be used during the lab classes to perform some calculations. Minitab instructions will be given in the labs.

13. Calculators

Calculators will be allowed for the quizzes, and the midterm and final examinations for arithmetic calculations only, i.e. to $+$, $-$, \times , \div , $\sqrt{\quad}$. Programmable and graphing calculators are not allowed.

14. Examinations

Quizzes: Quizzes **must** be written in the lab room to which you are assigned. They are closed book. Statistical tables will be provided. No formula sheet will be allowed.

Midterm Examination: The midterm examination will be 50 minutes long and will be written in the regular lecture room. It is closed book. A formula sheet and statistical tables will be provided.

Final Examination: The final examination will be scheduled by the Registrar's Office at some time during the Final Examination Period. It will be 2 hours long. It is closed book. A formula sheet and statistical tables will be provided.

15. Course Content

Chapter 1: Data – Distributions

Graphs – Stemplots, Histograms

Averages - Mean, Median, Mode

Spread - Quartiles, Five-Number Summary, Boxplots, Interquartile Range, Standard Deviation

Normal Distributions, Empirical Rule

Chapter 3: Producing Data

Design of Experiments, Sampling Design

Chapter 4: Probability

Sample Space

Counting Techniques

Probability Rules

Venn Diagrams, Tree Diagrams

Conditional Probability

Mutually Exclusive Events

Independence

Bayes' Rule

Law of Large Numbers

Discrete and Continuous Random Variables, Means, Standard Deviations

Chapter 5 and Notes: Distributions

Binomial

Normal Approximation to the Binomial

Hypergeometric

Negative Binomial

Poisson

Sampling Distribution of the Mean

Chapter 6: Inference

Confidence Intervals

Tests of Hypothesis

Type I and Type II Errors

Chapter 7: More Inference for Means

t-distributions

Confidence Intervals

Tests of Hypothesis

Chapter 8: Inference for Proportions

Confidence Intervals

Tests of Significance

Chapter 2: Relationships

Correlation

Regression

16. Attendance

It is important to attend all lectures and labs, as this course, like other mathematics and statistics courses, makes use of earlier material in later chapters. Do not fall behind in this class. Make use of the individual help which is available in MS 571 during the continuous tutorial hours

17 .Support Materials

1.Worksheets: On non-quiz labs worksheets will be presented. They will contain problems to work on during the lab period. It is very important to attend these labs. Solving the questions on the worksheets is an important part of preparing for the quizzes.

2.Blackboard. Course announcements, including information indicating the topics to be covered on quizzes will be placed on Blackboard. Blackboard also contains Recommended Exercises from the Textbook and certain sections of Chapters which will be omitted. The Course Content section gives additional notes, special helps and diagrams. Extra probability problems, which will be solved in class, are posted. Notes covering material contained in the course syllabus, but not in the textbook, are also placed on Blackboard. Additional content may be added as the course progresses.

18. Other Help – Office Hours

I will be available during office hours (Wednesday and Friday, 16:00 – 17:00) or you may make an appointment (see me after class or send an email) if you prefer.

19. Nature of the Course

There are some mathematical aspects to this course, but the emphasis will not be on proofs. Rather, the emphasis will be on understanding concepts and real life applications, gaining understanding from numbers. Examples show how statistics has been used to help solve problems in many fields.

COURSE OUTLINE ADDENDUM -- GRADING WINTER 2013

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Each piece of work submitted by the student will be assigned a percentage score. The average percentage score for each item of a term component will be combined with its course component weighting listed above to form a weighted average which is to be the final score in the course. This final score, a percentage out of 100, will then be converted to a letter grade using the following conversion table:

≥ 90%	A ±
≥ 75%	B ±
≥ 60%	C ±
≥ 50%	D ±
< 50%	F

As noted in the Calendar, this conversion table could be adjusted, but only if the grades of the students will not be lowered.

A passing grade in the Final Examination is essential for an overall grade of C- or better.

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