UNIVERSITY OF CALGARY

FACULTY OF SCIENCE – MATHEMATICS & STATISTICS - MS 476

Ph: (403) 220-5203; E-mail: undergrad@math.ucalgary.ca

COURSE OUTLINE

WINTER 2012

1. **Course ID and number, Course Title**: Statistics 217– Introduction to Statistics II
   Lecture Day/Time: L05 TuTh 12:30 to 13:45
   Instructor: Dr. G. Chen
   Office/Phone/Email: MS524 403 220 3961 gchen@math.ucalgary.ca
   Office Hours: To be announced

2. **Prerequisites**: **Stat213 (C- and above) or consent of the division**
   (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	[4]	30 %	(Count the best 3 out of 4)
Midterm Test	[1]	20 %	(Thursday, March 8, in class)
Final Exam		50 %	(To be scheduled by the 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.

4. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in 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. **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**: ***Statistics, 11th Edition (with MINITAB)*** **by** McClave and Sincich

7. **Examination Policy**: ***A non-programmable calculator*** is the only aid you can bring to write the quizzes. ***A non-programmable calculator*** **and** ***a two-sided 8.5" by 11'' sheet of formula information*** are the only aids you can bring to write the **midterm test and the final examination**. Students should also read the Calendar, Section G, on Examinations: **www.ucalgary.ca/pubs/calendar/current/g.html**

8. **Writing across the curriculum**: The University believes that students should be taught to write well, and quality of writing should be a factor in their evaluation. Thus, a complete sentence is required when answering each question on quizzes, midterm and final examinations. See also **http://www.ucalgary.ca/pubs/calendar/current/e-2.html**.

9. **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@ucagary.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.

UNIVERSITY OF CALGARY

FACULTY OF SCIENCE
Department of Mathematics and Statistics

STATISTICS 217
"STATISTICAL METHODS II"

Calendar Description: H(3-1-1T)
Estimation of population parameters; confidence intervals for means; choice of sample size. Tests of hypotheses including 2-sample tests and paired comparisons. The Chi-squared tests for association and goodness-of-fit. Regression and correlation; variance estimates; tests for regression and correlation coefficients. Non-parametric methods and associated tests. Time series, forecasting.
Prerequisite: Statistics 213 or consent of the Division.

Syllabus

Topics	**Number of hours**
ESTIMATION Chapter 7 Point and interval estimation. Unbiased estimators. Confidence intervals for means, proportions, and their differences. Required sample size for given interval width. Optional: Notched Box-and-whisker plots.	4
HYPOTHESIS TESTING: ONE SAMPLE Chapter 8 Introduction to hypothesis testing. Acceptance and rejection regions. Type I and Type II errors and their probabilities. Hypotheses about means and proportions including Student T-test. Power function of a test involving the mean and proportion. Hypothesis testing and confidence interval for the variance, Chi-squared distribution.	8
HYPOTHESIS TESTING: TWO SAMPLES Chapter 9 Distribution of the difference of two sample means and proportions. Comparisons of two means and two proportions including paired Student T-test. Optional: Levene's test or Fisher's distribution and comparison of two variances.	5
CHI-SQUARED TESTS Chapter 13 Goodness of fit tests to uniform, binomial, Poisson and Normal distributions. Tests of homogeneity, independence and contingency tables.	4
ANALYSIS OF VARIANCE One way analysis of variance including F-test. Two way analysis of variance with one observation per cell.	3
LINEAR REGRESSION Chapter 11 ~ 12 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. Multivariate and polynomial regression.	7
NON-PARAMETRIC TESTS Chapter 14 Selection of non-parametric tests from the following list: Sign test, Mann-Whitney test, Wilcoxon signed-ranks test, Kruskal-Wallis test, Kolmogorov-Smirnov test.	5
TOTAL HOURS	36

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PE:jml
Calendar change H(3-2) to H(3-1-1T) Fall 2009