

STA302H1 Course Information Sheet. Summer 2006.

Brief Course Description:

Analysis of the multiple regression model by least squares; statistical properties of least squares analysis, estimate of error; residual and regression sums of squares; distribution theory under normality of the observations; confidence regions and intervals; tests for normality; variance stabilizing transformations, logistic regression. multicollinearity, variable search method.

Required Textbooks: Applied Linear Statistical Models (4th edition) by Kutner, Nachtsheim, Neter.

Recommended preparation: APM233Y1/MAT223H1/240H1

Prerequisites: /261H1/ ECO220Y1 (70%)/ 227Y1/(STA257H1 , MAT224H1)

Exclusion: ECO327Y1 , 357Y1

General Information

Instructor: Pablo Olivares.

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course web page: <http://www.risklab.ca/pablo/sta302/sta302/homeStat302.htm>

Office: Sidney Smith Building. 6th floor. Department of Statistics. Room 6008.

Phone: 416-946-7587.

T.A.'s Office hours: TBA.

Approximate Lecture Guide

1. Week 1: Chapters 1.
Simple linear regression, Estimation of Regression Function. Normal errors model, least squares criteria, Maximum Likelihood Criteria.
Week 2: Chapter 2.
Inference concerning β_0 and β_1 . Prediction intervals for an individual, confidence intervals for means.
ANOVA table for regression, estimation of parameters, residuals, coefficient of determination. Normal Correlation Models.
2. Week 3: Chapters 3-5
Diagnostic for Predictor Variables. Residuals. Diagnostic for Residuals. Tests. Remedial Measures. Other topics in Regression Analysis. Matrix approach to simple regression analysis.

3. Week 4:Chapters 6-7
Multiple linear regression, ANOVA table, estimation of parameters, residuals, coefficient of multiple determination, inferences about parameters.
Prediction intervals for an individual, confidence intervals for means. Diagnostics and remedial measures. extra sums of squares, partial F tests, coefficient of partial determination, standardized regression, multicollinearity.
4. Week 5:Chapter 8-9
Polynomial model, interaction models, qualitative and quantitative predictors, model selection, forwards selection, backwards selection, step-wise regression. Correlated errors, autocorrelation, Durbin -Watson test, forecasts with correlated error.
5. Week 6: Chapter 12 and Chapter 14
Simple logistic regression, multiple logistic regression, goodness of fit testing, logistic model selection, diagnostics, predictions.

Marking Scheme

Final Exam:50%(to be scheduled by the Faculty of Arts and Science on August 14-18)

Mid term Test:30 %

Assignments: 20 %

Test Calendar

Mid term Test	Wed July 26, 7:30-9:00 p.m.
Assignment 1	Due on Wed July 24 during the Lecture.
Assignment 2	Due on Wed August 9 during the Lecture

During the Mid Term there is not extra time for late entrants.

Missed tests

Make-up test will not be re-scheduled. If you miss the test, you must submit completed U of T medical form within one week of the missed test. Certificates must be submitted to the professor or to the Department.

E-mail policy

E-mails should include the name and the student ID number to be replied. An answer should be expected during the 48 hours following the e-mail.