

PLEASE TURN OFF YOUR CELL PHONE DURING CLASS
上課時請把手機關掉

CATEGORICAL DATA ANALYSIS Syllabus
Spring Semester, 2004
類別資料分析課程大綱
星期三下午 2:10 – 5:00; T314

Instructor: Meichu Chen
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Office hours: M, Th 5:30-8:00pm or by appointments.

Course Objectives: This course teaches statistical methods for analyzing categorical data, with an emphasis on practical applications rather than statistical theories. Students are expected to apply one of the statistical methods taught in the class to a substantive research issue of the student's choice. Students will learn to use statistical software to carry out empirical analysis and interpret outputs.

Required Background: Regression analysis.

Textbooks:

Required: Daniel Powers and Yu Xie. 2000. *Categorical Data Analysis*, San Diego, CA: Academic Press. (PX)
J. Scott Long and Jeremy Freese. 2003. *Regression Models for Categorical Dependent Variables Using Stata*, Revised Edition, College Station: Stata Press. (LF)
Supplement Materials: Berk, Richard A., 1983. "An Introduction to Sample Selection Bias in Sociological Data." *American Sociological Review* 48:386-398.
Winship, Christopher and Robert D. Mare. 1992. "Models for Sample Selection Bias." *American Review of Sociology* 18:327-350.

Date, Topic, and Reading:

Introduction to Categorical Data (PX Ch. 1, Appendix A; LF Ch. 1)
2/18/04: Definition of Categorical Data
Categorical Dependent Variables
Transformational Approach
Latent Approach
Review of Linear Regression (PX Ch. 2; LF Ch. 2)
2/25/05: Regression Models
Basic Structure of Models
Estimation and Inference in Linear Regression
Model Assumption
3/03/04: 電腦實習 (Limdep Manual Ch. 1, 2, 3)
Models for Binary Data (PX Ch. 3; LF Ch. 3-4)
3/10/04: Transformational Approach
3/17/04: Latent Variable Approach
3/24/04: Model Fit and Model Selection
3/31/04: Estimation, Inference, and Interpretation
Paper outline due at 7:00pm

Models for Ordinal Dependent Variables (PX Ch. 6; LF Ch. 5)
4/07/04: Scoring Methods
 Logit Models for Grouped Data
4/14/04: Ordered Logit and Probit Models
Models for Unordered Dependent Variables (PX Ch. 7; LF Ch. 6)
4/21/04: Multinomial Logit Models (Transformational Approach)
 Multinomial Logit Models (Latent Variable Approach)
4/28/04: Conditional Logit Models
 Mixed Multinomial Logit Models
 Sequential Logit Models
5/05/04: Sample Selection Models (Berk; Winship and Mare)
Models for Count Data (PX Ch. 4; LF Ch. 7)
5/12/04: Poisson Regression Models for Counts
5/19/04: Contingency Tables
 Estimation, Inference, and Model Fit
5/26/04: Models for Two-way Tables
 Models for Ordinal Data
 Models for Multi-way Tables
6/02/04: Student Presentation
6/09/04: Student Presentation continued
6/16/04: Paper due at 7:00pm

Grades will be based on the scores from the followings:

- 1) Term Paper: 40%
- 2) Presentation: 10%
- 3) Five Assignments: 50%
- 4) Extra Exercises can earn extra (5-10) bonus points.