開 授 課 程 大 綱

開課單位系所		清華大學/統計所				
課　　　號	STAT 5230		班　次		學　分	3
名　　　稱	類別資料分析					
授 課 教 師	鄭少為					

一.內容：

The overall goal of the course is to provide students with practical knowledge of how to analyze categorical data, and how to interpret and understand the results of that analysis. The topics to be covered in the course include:

- Introduction to Generalized Linear Models
  - Estimation and inference
  - Residuals and diagnostics
- Analysis of binary response
- Analysis of multinomial response
- Count Regression
- Contingency Tables
- Random and mixed effects models

二.教科書及參考書：

- Textbook

  Faraway, J.J. (2016), *Extending the Linear Model with R*, 2nd Edition, Chapman & Hall/CRC.

- References

  1. Agresti, A. (2013), *Categorical Data Analysis*, 3rd Edition, John Wiley & Son.
  2. Agresti, A. (2012), *Analysis of Ordinal Categorical Data*, 2nd Edition, John Wiley & Son.
  3. McCullagh, P. and Nelder, J.A. (1989), Generalized Linear Models, 2nd Edition, Chapman and Hall, London.

三.成績評量方式：

Homework 30%;　Midterm Exam 30%;　Final Exam 40%

四.Course webpage：NTHU STAT 5230 - Discrete Analysis

五.Prerequisites：

Knowledge of linear model and regression analysis (STAT 5410)