This course introduces methods for analyzing response data that are categorical rather than continuous. Participants will learn about the characteristics of different kinds of categorical response data and how the extent of homogeneity on the response may be assessed via contingency tables. The course will also discuss the use of powerful generalized linear models. The discussion extends to models that have a Gaussian distribution as well as models with a Bernoulli and/or Poisson distribution. Participants will learn these techniques via a number of real data examples from the social sciences.

**Course Outline**

- Introduction to Categorical Data: Categorical data and its types; probability models used for categorical data; and parameter estimation and hypothesis testing
- Two-way Contingency Tables
- Three-way Contingency Tables
- Generalized Linear Models
- Logistic Regression
- Loglinear Models
- Multicategory Logit Models

**Who Should Attend**

This course is designed for researchers, market researchers, analysts and practitioners from government agencies who wants to learn how to analyze categorical data using R.

**Prerequisites**

There are no prerequisites for this course.

**Enquiries**

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**Faculty Member**

Dr. Jin-Ting Zhang is Associate Professor in the Department of Statistics and Applied Probability at the National University of Singapore. He joined NUS at the end of 2000 and he has taught a number of modules, including regression analysis, generalized linear regression, nonparametric regression, categorical data analysis, computer aided data analysis, computer intensive data analysis, and Bayesian statistics, among others. He has published extensively and served on the editorial boards of several international statistical journals. He is the author of a recent monograph: *Analysis of Variance for Functional Data* published by Chapman and Hall, 2014. He is also the coauthor of *Nonparametric Regression Methods for Longitudinal Data Analysis: Mixed-Effect Modelling Approaches* (2006, Wiley Series in Probability and Statistics) and co-editor of *Advances in Statistics: Proceedings of the Conference in Honor of Professor Zhidong Bai on His 65th Birthday, NUS, 20 July 2008.*