

授業科目名： Method and Application of Data Analysis			担当教員名： Boyu Chen
選択必修： Elective	単位数： 2	セメスター： 1 Fall	開講言語： English

○授業の到達目標及びテーマ

This course aims to instruct students in methods of statistical data analysis and to have them acquire an approach that is applicable to sub-fields in International Studies and Regional Development (international society, regional international relations, and area (country) studies).

○授業の概要

This course is designed so that students can systematically acquire analytical methods in International Studies and Regional Development by learning quantitative research methods, including statistical interference and regression analysis. In recent years, professionals are increasingly expected to make decisions based on statistical hypothesis testing and prediction. Thus, it is important to acquire idea and methods of data analysis for those who wish to work in the global society.

The course is composed by three sections. In the first section, students are instructed in descriptive statistics as a first step to learn major ideas in data analysis. Topics here cover the foundation of statistical analysis, including data collection, characteristic of category/quantitative variables, and cross-tabulation. The second section explores inferential statistics. In particular, it focuses on how we can infer parameters of population from limited sample by covering issues such as statistical inference, hypothesis testing, relationships between groups, and relationships between variables. In the third section, students learn a foundation of advanced quantitative methods. As an introduction to “Special Topics of Data Analysis,” the section covers topics such as least squares method and logistic regression analysis.

○授業の方法

1) This course is offered in English. 2) Students are expected to read course materials assigned by the instructor and actively participate in Q & A and class discussion. 3) Lectures will be based on handouts provided in each class meeting. They may include Q & A and class discussion according to progress with the classes. 4) Students will be assigned the midterm exam and term paper in addition to the assignments mentioned above.

○授業計画

第1回

Introduction: Course overview and application of data analysis

第 2 回

Fundamentals of empirical research: Research design and process based on data analysis

第 3 回

Quantification of social phenomena: Operationalization of concepts and scale of measurement

第 4 回

Tabulation and graphs

第 5 回

Descriptive statistics: Central tendency and summarizing data

第 6 回

Inferential statistics: Hypothesis testing, confidence interval, and standard error

第 7 回

Test of relationships between groups

第 8 回

Test of relationships between variables

第 9 回

Midterm exam

第 1 0 回

Fundamentals of regression analysis

第 1 1 回

Bivariate and multivariate regression analysis

第 1 2 回

Logistic regression analysis

第 1 3 回

Review of regression analysis and tutorial

第 1 4 回

Review of regression analysis and tutorial/ Research presentation

第 1 5 回

Research presentation

○テキスト **Textbook**

Field, Andy. 2017. *Discovering Statistics Using IBM SPSS Statistics*. Sage Publications.

○参考書・参考資料等 **References**

Will be presented in class

○学生に対する評価 **Evaluation**

1. Class Discussion: 30%
2. Midterm exam: 30%
3. Research paper and presentation: 40%