Cluster	Subject Title	Instructor	Credit	Semester
K-P	Quantitative Methods in Educational Research	Pey-Yan Liou	3	Summer 2021

Subject Description

Quantiative Methods in Educational Research is essentially about collecting and analyzing numerical data to expalin a particular educational phenomenon of interest. Analyzing data is the main focus of the course while basic educational research designs and fundamental statistical knowledge will be introduced at the begining of the course. The statistical software, SPSS, will be used. Topics include t-tests, correlation, linear regression, moderation and meditation. This course is applied, meaning that the focus is on conceptual understanding of the methods used in data analysis rather than on the mathematical bases of the methods.

Objective

Through participating in the course, students will be able to:
- explain terminologies and theories of statistical methods.
- identify suitable statistical methods for given research questions.
- utilize SPSS for statistical computations.
- comprehend how statistical methods applied in academic journal articles.
- demontrate sufficient statistical knowledge to conduct educational research based on their research interests.

Learning Method

The teaching and learning process are listed as follows.
- reading required course materials
- listening to the contents delivered by the instructor
- practicing how to get statistical results using SPSS
- finishing assignments independently

Content

- Introduction to using quantitative methods for research (Chapter 1)
- Essences and terminologies of statistics (Chapter 2)
- The SPSS environment and application (Chapter 4)
- Correlation (Chapter 8)
- *t*-tests (Chapter 10)
- Regression and the concepts of the linear model (Chapters 6 and 9)
- Moderation (Chapter 11)
- Mediation (Chapter 11)

Requirement

It is strongly recommended that students should read the assigned chapters of the textbook prior to the lecture. Students should have access to Statistical Package for the Social Sciences (SPSS) during the course.

Evaluation

25% of the grade will be for lab disucussion, class attendance, preparation, and participation.

75% of the grade will be for the three labs. Each lab is due the day after, and accounts for 25%.

Final Score	Letter Grade
95-100	A+
90-94	A
85-89	B+
80-84	B
75-79	C+
Below 74	F

Textbook

Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed). London: Sage Publications.

*Class schedule may be modified based on students' backgrounds, expectations, and performance.