(GPP 803) Applied Statistics for Public Policy

Pre requisites: None

Learning objectives

This course seeks to introduce students to some of the basic statistical methods and their application to public policy and public management. The course intends to cover important aspects of descriptive statistics, univariate and bivariate statistical inference as well as multivariate analysis. The course encourages students to use a critical approach to review statistical findings and to use statistical reasoning for decision-making in the public sector.

Learning Outcomes: After completing the course, students should be able to:

1.Learn how to use and interpret statistical data used in social science research in general and public policy in particular

2.Carry out statistical analysis by using statistical software such as STATA

3.Identify appropriate statistical analysis techniques to answer quantitative research questions

4.Form conclusions and provide policy implications based upon results of the statistical analyses

Course Contents

Fundamentals of Probability, Sampling Distribution, Central Limit Theorem, & Confidence Intervals, Probability Distributions, Hypothesis Testing, Categorical Variable Analysis: The Chi-Square Distribution, Regression: Correlation, Bivariate Regression; Goodness of fit & OLS Assumptions. Multiple Regression; Dummy Regression & Influential Observations, Multicollinearity, Heteroskedasticity, Correlated Disturbances & Diagnostics, Model Specification, Interactions, Polynomial Regression.

Text book and Softwares

1.Alan Agresti and Barbara Finlay (1997). Statistical Methods for the Social Sciences. 3rd edition. Prentice Hall.

2.Kenneth J. Meier, Jeffrey L. Brudney and John Bohte (2012). Applied Statistics for Public and Non-Profit Administration. 8th edition. Wadsworth, Cengage Learning

3.Mendenhall, W., Beaver, R., & Beaver, B. (2012). Introduction to Probability & Statistics (14th Edition). New York: Duxbury Press.

4.Alan C. Acock (2006). A Gentle Introduction to Stata. Stata Press.