Statistical Package for the Social Science (SPSS) and Sample Power

Introduction to the Practice of Statistics

E-LEARNING SUPPORT– UF COMPUTING HELP DESK
OFFICE OF ACADEMIC TECHNOLOGY

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STATISTICAL PACKAGE FOR THE SOCIAL SCIENCE (SPSS) AND SAMPLE POWER

Introduction to the Practice of Statistics

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Textbooks


Class Meeting
Hub Room 221. Dates and times are scheduled by the group of participants per semester.
**Workshop Goal and Objectives**

The goal of these workshops is to introduce the SPSS and Sample Power applications to faculty, staff, and students with no knowledge or basic skill in SPSS. This workshop will teach participants the fundamental procedures that will allow them to continue by their own. After completing these workshops, participants will be able to:

- Describe the SPSS interface
- Enter and save data
- Import data from Excel
- Explore data analysis
- Create charts, histograms, and box plots
- Transform variables
- Perform elementary statistical analyses such as t-test, Chi-squared, correlation, regression, and one-way ANOVA with the respective non-parametric statistics.
- Perform advanced statistical analyses such as multiple regression, two-factor ANOVA, and ANCOVA.
- Carry out the power analysis for each of the Statistics tests mentioned above.

**Workshop Description**

IBM SPSS Statistics 23 is a comprehensive system for analyzing data. SPSS can take data from almost any type of file and use them to generate tabulated reports, charts, and plots of distributions and trends, descriptive statistics, and complex statistical analyses. SPSS makes statistical analysis more accessible for the beginner and more convenient for the experienced user. Simple menus and dialog box selections make it possible to perform complex analyses without typing a single line of command syntax. The Data Editor offers a simple and efficient spreadsheet-like facility for entering data and browsing the working data file.

This workshop has not been designed to teach Statistics. Participants should know basic and advanced Statistics in order to take these workshops. Some background material needs be covered in order to understand the analysis, but the theory behind each analysis will not be explained.

The training methods will follow the classical training session composed of lecturing and hand-on activities, in which participants take the dynamic role of having attention, asking questions, and working on exercises. Class will be limited to 15 students, and we will meet for 3 hours in each workshop per week. We will have four workshops scheduled as explained in the next page.
## Workshop Schedule

### Getting Started
- Getting familiar with the interface
- Importing data from Excel
- Exploratory Data Analysis
- Plotting several types of charts
- Transforming variables

### Moving On
- Descriptive statistics for two or more variables
- Inferential statistics for the mean and the median
  - One-sample t-test
  - T-test and Mann-Whitney U Test
  - Paired-difference t-test & Wilcoxon Signed-Rank Test
- Creating and editing charts for two or more variables
- Inferential statistics for categorical variables:
  - One-sample binomial test
  - One-sample Chi-square
  - Chi-Squared Test of Independence
- Power Analysis for the mean, median, and proportion

### Advanced 1
- Bivariate linear regression and correlation
- Multiple linear regression and correlation
- Model building and selection
- Power Analysis for correlation and regression

### Advanced 2
- One-way ANOVA & Kruskal-Wallis Test
- Two-way ANOVA & Friedman Test
- Analysis of Covariance
- Power Analysis for ANOVA and ANCOVA
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1. Counseling and Wellness Center, 3190 Radio Road, 392-1575, personal, sexual assault, and career counseling

2. Career Resources Center, Reitz Union, 392-1601, career development assistance and counseling

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