

Statistical Consulting Unit

Workshops/Training courses

Spring 2024 Workshop #8

Title: Applied Multivariate Analysis

Statistical Software: SPSS

Requirements: Basic background in Statistics

Instructor: Dr. Saeed AL Dahmani

Target Group: Faculty, research staff, and graduate students

Date: 12 Feb., 2024– 25 Feb., 2024

Period: (12 Hours), 3 days, 4 hours/day

Platform: Face-to-face Meeting

Inclusive of Scientific Materials: PowerPoint Slide Presentation and E-Certificate.

Description:

This workshop is an introduction to the methodology and applications of some of the most widely used multivariate statistical analysis tools. It covers principal components analysis and factor analysis. Principal Component Analysis (PCA) is a popular multivariate technique used for data reduction. It re-expresses the data by re-orienting it so that the first few dimensions' account for most of the information in the data. The resulting principal components can then be used in further analyses such as regression and ordination.

Factor Analysis is a data dimension reduction technique, like Principal Component Analysis, that attempts to explain a set of observable variables by a smaller set of underlying unobservable variables.

Topics Covered:

Day 1:

Introduction to PCA

Derivation of Principal Components

Factor Loadings

Application in SPSS

Interpretation of SPSS output

Exercises

Day 2:

PC Scores

Sphericity Test

Introduction to Factor Analysis

The Common Factor Model

Methods of Estimation

Exercises

Day 3:

Principal Component Solution to FA

Principal Factor Solution to FA

Rotation of Factors

Factor Scores

Exercises

Workshop Fee: 1500 AED*

Contact US: statconsult@uaeu.ac.ae

*20% off for UAEU students