

Statistical Package for the Social Science (SPSS)

Introduction to the Practice of Statistics

UF INFORMATION TECHNOLOGY

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STATISTICAL PACKAGE FOR THE SOCIAL SCIENCE

Introduction to the Practice of Statistics

Instructor

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Course Schedule

Online self-paced. Dates: August 24 (8:00 am) to December 2, 2026 (5:00 pm).

Goal and Objectives

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

- Describe the SPSS interface. Enter and save data. Import data from Excel
- Perform data preparation and exploratory data analysis
- Create charts, histograms, and box plots
- Transform variables
- Perform statistical analyses such as t-test, one-way and two-way ANOVA, bivariate and multiple linear regression, Chi-squared, and logistic regression. Most of these tests will have the corresponding non-parametric procedure.
- Carry out the power analysis for each of the statistics tests mentioned above.

Course Description

IBM SPSS Statistics v.32 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 set.

This course has not been designed to teach statistics. Participants must know basic or advanced statistics to take this course. Some background material needs to be covered to understand the analysis, but the theory behind each analysis will not be explained.

The dynamic of the course will follow taking the background knowledge quiz, reading the tutorial, watching the videos, and carrying out tutorial and skill activities. There are exercises for the people who want more practice, and they are strongly recommended. **The course is self-paced**, and we have seven modules scheduled as explained below.

Course Content

Data preparation

- Getting familiar with the interface
- Enter, save, and import data from Excel
- Carry out different data preparation processes

Exploratory Data Analysis

- EDA for one or more variables
- Create charts for one variable
- Transform data
- Transforming scale into categorical variable

Inferential statistics for the mean and the median

- Descriptive statistics for two or more variables
- Creating and editing charts for two or more variables
- Inferential statistics for the mean and the median
 - One-sample t-test and sign test
 - T-test and Mann-Whitney U Test
 - Paired-difference t-test & Wilcoxon Signed-Rank Test
- Power Analysis for t-test

ANOVA and simple linear regression

- One-way and two-way ANOVA & Kruskal-Wallis Test
- Bivariate linear regression and quantile regression
- Power Analysis for ANOVA

Multiple linear regression

- Multiple linear regression, quantile regression, and correlation
- Model building and selection
- Interpreting regression coefficients and confidence intervals
- Quantifying and dealing with multicollinearity
- Power Analysis for linear regression

Inferential statistics for the proportion

- Inferential statistics for categorical variables:
 - One-sample binomial test
 - One-sample Chi-square
 - Chi-Squared Test of Independence
- Power Analysis for the proportion

Logistic regression

- Assumptions
- Estimating and interpreting regression coefficients and confidence intervals
- Maximum likelihood estimator and Wald statistics
- Modeling scale, binary and categorical variables
- Testing the linearity assumption
- Power analysis for logistic regression

Pre-Requisites

Since this course does not teach statistics, and it has been designed for faculty, staff, postdoctoral candidates, TAs, and graduate students, at least a graduate-level statistics course must be taken before enrolling. The content of the course follows the main statistical procedures covered by STA 6126 and STA 6127 at the University of Florida. Hence, it summarizes these two courses. Other statistical courses that can be used as examples are the following: EDF 6402, EDF 6403, EDF 7405, ALS 5932, and HLP 6515 at the University of Florida. If you are in doubt about registering in this course, please email the syllabus of the statistics course that you completed to Dr. Silva-Lugo, and he will let you know whether you can enroll.

SPSS Statistics Essential Training in LinkedIn Learning

Participants are encouraged to take the LinkedIn Learning path named “SPSS Basic Statistical Analyses” before the course starts. This learning path is a good introduction to SPSS, and it will facilitate the learning experience with the SPSS Statistics course. To access this course, go to [e-Learning](#), click and login in LinkedIn Learning, and type the title of the course in the search box field.

SPSS Textbooks

Below is a list of textbooks in SPSS. Kerr’s book follows the same structure of research methodology used in this course.

- Cronk, B. C. 2024. How to use SPSS: A Step-By-Step Guide to Analysis and Interpretation. 12th Edition. Routledge, New York, USA.
- Denis, D. 2019. SPSS Data Analysis for Univariate, Bivariate and Multivariate Statistics. John Wiley & Sons, Inc. Hoboken, NJ.
- Field, A. P. 2018. Discovering Statistics using SPSS (Introducing Statistical Method). 5th Edition. SAGE Publications Ltd., California, USA.
- George, D. and P. Mallery. 2018. SPSS Statistics 23 Step-by-Step: A Simple Guide and Reference 15th Edition. Routledge, New York, USA.
- McCormick, K., J. Salcedo, J. Pock, and A. Wheeler. 2017. SPSS Statistics for Data Analysis and Visualization. John Wiley & Sons, Inc. Indianapolis, IN.
- Green, Samuel B. and Neil J. Salkind. 2016. Using SPSS for Windows and Macintosh: Analyzing and Understanding Data. 8th Edition. Pearson, New York, USA
- Aldrich, J. O. and J. B. Cunningham. 2015. Using IBM SPSS Statistics: An interactive hand-on approach. 2nd Edition. SAGE Publications, Washington DC, USA.
- Kerr, A. W., H. K. Hall., and S. A. Kozub. 2014. Doing Statistics with SPSS. SAGE Publications, California, USA.

Statistics Textbooks

If you have not conducted statistical analysis for some time and/or do not remember the concepts and procedures, you must review them before taking the SPSS course. Below are two good textbooks that I recommend:

- Field, A. P. 2018. Discovering Statistics using SPSS (Introducing Statistical Method). 5th Edition. SAGE Publications Ltd., California, USA.
- Ramsey, F. and D. W. Schaefer. 2013. The Statistical Sleuth: A Course in Methods of Data Analysis. 3rd Edition. Brooks/Cole, Cengage Learning, USA.

Commitment to the Course

The first two modules are essential because the skills learned from them will be needed in the other modules. **Your active participation is essential for successfully completing the course. Although it can be finished in seven weeks, you will have the entire semester to complete it.**

Please, allow me to explain what participation means. If you are interested in this course, you must follow the workflow: take the background knowledge survey, study the tutorial and other resources, watch the videos, and do the tutorial and skill activities. If you have time, it is strongly recommended to do the exercises. Yes, it is exactly like taking a registered course. The only difference is that **the final grade will NOT be included in your accumulative GPA.**

Getting to Class

This is an online course implemented through the course management system “Canvas” at the University of Florida. Since the course is self-paced, you are in control of the time spent in each module. You can access a Module by clicking on Home and selecting the topic taught in that module or you can go to the Modules tool in the Navigation Bar. Each module has background knowledge, resources, objectives, learning materials, activities (tutorial and skill) with feedback, and optional exercises. The recommended readings and learning materials have all the content required for you to learn and to satisfactorily pass all evaluations. If you follow the workflow, you guarantee your learning.

Course Evaluation and Certificate

Since the course is online, it requires you to be focused, have a high level of interest and motivation. It is your responsibility to go over the materials, learn, and practice the statistical procedures. You are committed to work and learn independently.

If you read the tutorial and watch the videos, you will have enough information to carry out successfully the tutorial and skill activities. Each module has additional references if you are interested in obtaining more information.

I will evaluate your knowledge, skills, and your level of satisfaction. Knowledge and skills will be assessed by using the tutorial and skill activities, respectively. Both evaluations will be scored in Canvas automatically. You will also evaluate the course with a satisfaction survey at the end of the course.

If you want to work in teams, you are welcome to do so. Please, notify me if you are creating a group.

Each module will include a forum designed to encourage collaboration among participants. You are welcome to ask questions about the activities, and your classmates can help by answering your questions to support your progress. I will also be available to answer questions and provide consultations on the course content whenever needed.

The tutorial and skill activities will account for 40% and 60% of the final grade, respectively. You will receive a certificate of completion if you participate in the seven modules and achieve a final grade equal to or greater than 80% in Canvas.

Accommodation for Students with disabilities

If you need classroom accommodation because of a disability, you must register with the [Disability Resource Center](#). This office will provide you with several forms, and one of them must be turned into the instructor. Since some of this accommodation requires time to be in place, I would appreciate it if the form were given to me two weeks in advance.

General Notice to Participants

Course Policies

- You are responsible for following the workflow and for studying all materials and resources posted within the course in Canvas.
- You are responsible for submitting all activities to Canvas.
- The course starts on 08/24/2026 (8:00 am) and ends on 12/02/2026 (5:00 pm).
- If you have questions about the course, evaluations, or grades, please contact me at joselugo@ufl.edu or through the email in Canvas.

SPSS License

If you are interested in purchasing the license for one year, faculty, staff and students can obtain the license for SPSS Statistics v.32 at the [Help Desk](#). Follow the link to find out about the academic price and how to acquire the software.

Software Use

All faculty, staff, and students at the University are required to obey the laws and legal agreements regarding software use. It is illegal to copy licensed and/or copy written materials. This is a third-degree felony under Florida law. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against

university policies and rules, disciplinary action will be taken as appropriate. The Office of Academic Technology and the members of the University of Florida community pledge to hold our peers and ourselves to the highest standards of honesty and integrity.

UF Counseling Services

Resources are available on campus for students having personal problems or lacking clear career and academic goals that interfere with their academic performance. These resources include:

1. U Matter We Care, 352-294-2273 | umatter@ufl.edu, help for students in distress
2. Counseling and Wellness Center, 3190 Radio Road, 392-1575, personal, sexual assault, and career counseling
3. Career Resources Center, Reitz Union, 392-1601, career development assistance and counseling