Basic Statistics Workshops

Fall 2025

The **Center for Statistical Computing** (CSC) invites all graduate students, staff, and faculty to participate in our statistics workshops. Sessions are offered either via **Zoom** or in **Lab C** on the upper level (UL) of Healey Library**.** This semester, workshops will cover SPSS, SAS, Stata, R, RStudio, Python and ChatGPT. Participants will receive handouts, program files, and example data sets. Workshop descriptions, schedule and registration links are provided below.

Statistics Workshop Descriptions:

SPSS 1 is a hands-on workshop designed to empower attendees with the skills to conduct meaningful data analysis using SPSS for Windows. Topics covered include entering and reading data, documenting variable and value labels, examining frequency and crosstab tables for individual and group data, recoding variables, performing independent sample *t*-tests, and conducting simple linear regression.

SPSS 2 delves into advanced data management and statistical procedures, encompassing case selection, combining cases from two files, and linking files with diverse information. Statistical procedures covered include the chi-square test, one-way ANOVA, repeated measurement analysis, non-parametric statistics, multiple regression, and logistic regression.

Introduction to SAS introduces the SAS system, with a focus on the SAS DATA step and its application in data input, manipulation, output, and summarization. Topics include creating SAS working data sets and data files, importing data, formatting variable and value labels, and performing basic statistical procedures such as PROC FREQ, PROC MEANS, and PROC GLM, and regression diagnostics.

Introduction to Stata provides a comprehensive introduction to the Stata software, covering both the graphic user interface and intuitive command syntax approaches. This workshop is designed to efficiently teach the fundamentals of Stata operations. Topics covered include data browsing, data management, descriptive statistics, independent samples *t*-test, linear regression models and Chi-square tests.

Statistical Analysis Using Excel provides valuable tips for enhancing efficiency in data analysis with Excel. Topics covered include entering data, organizing data and performing descriptive statistics, examining frequencies and crosstab tables, conducting independent and paired sample *t*-tests, correlation analysis, and linear regression.

Introduction to R emphasizes conducting fundamental statistical analyses, including descriptive statistics, frequency distributions, Chi-square tests, independent sample *t*-tests, one-way ANOVA, and linear and logistic regressions. Additional topics cover downloading and installing R packages, reading and writing data files, and creating R graphs. Notably, R is a free, open-source software supported by a strong user community.

Introduction to RStudio with SAGE Campus provides an overview of RStudio and SAGE Campus platform. RStudio, a user-friendly integrated development environment for the R language, is explored alongside SAGE Campus, a learning platform offering online courses for skills and research methods. This workshop covers key R concepts, including elementary data structures, atomicity,

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plotting using ggplot2, regression plotting, and logistic regression. The content is based on the course offered by SAGE Campus.

An Introduction to SAGE Campus courses: SAGE Campus is a learning platform that offers designed online courses for skills and research methods. These fully self-paced courses feature an engaging mix of video content, interactive elements, and formative assessments. This workshop provides an overview of SAGE Campus courses and guides students in setting up an account to enroll in SAGE Campus courses. The session will use the SAGE online course "Introduction to R" as an example.

Introduction to Python in Statistics combines content from two consecutive SAGE Campus Course: *Introduction to Python* and *Intermediate Python Skills*. This is a beginner-level workshop that requires no prior experience. It introduces the fundamental concept of the Python programming language, focusing on practical applications in statistical analyses using practical examples in the social sciences. The workshop starts with the basics of Python programming, delving into various data types and methods encountered in statistical analyses. Topics covered encompass analysis of variance, linear regression, and logistic regression.

Statistics using ChatGPT offers a hands-on guide to effectively conducting statistical tests with the help of ChatGPT. The workshop covers the fundamentals of ChatGPT and demonstrates its utility in assisting researchers with statistical analysis, including programming and interpreting results. Topics include the use of t-tests, one-way ANOVA, chi-square tests, and linear regression. This comprehensive guide aims to equip participants with the knowledge and skills to leverage ChatGPT's capabilities in various statistical scenarios.

Registration Procedures:
Seats and handouts are limited. Please register in advance.

1. Click the 'In-person Register' or 'On-Zoom Register' under Registration.
2. Fill out all the information and submit your registration form.
3. Join the workshops via a Zoom link in the confirmation email or attend an in-person session for in-person workshops.

*All in-person workshops will be held in **Lab C** on the upper level (UL) of Healey Library.*

Please contact Mr. Inal Mashukov at inal.mashukov001@umb.edu for any questions regarding the workshops.

Web:	https://www.umb.edu/academics/graduate/info_for_graduate_students/center_for_statistical_computing
Location:	**Healey Library, Lab C.** (From the main elevators in Healey Library, take the Upper level (UL). Turn right leaving the elevator, and you'll find Lab C on the right in the hallway)

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Topic	*Date*	*Day*	*Time*	*Registration*
Intro. To Stata	Sep. 09	Tuesday	1:00-3:00 P.M.	In-Person Register --- On-Zoom Register
Intro. To SAGE Campus	Sep. 10	Wednesday	11:00-12:00 P.M.	In-Person Register
Intro. To R	Sep. 11	Thursday	1:00-3:00 P.M.	In-Person Register --- On-Zoom Register
SPSS 1	Sep. 16	Tuesday	1:00-3:00 P.M.	In-Person Register --- On-Zoom Register
Statistics using Excel	Sep. 18	Thursday	1:00-3:00 P.M.	In-Person Register --- On-Zoom Register
SPSS 2	Sep. 23	Tuesday	1:00-3:00 P.M.	In-Person Register --- On-Zoom Register
Intro. To SAS	Sep. 30	Tuesday	1:00 – 3:00 P.M.	In-Person Register --- On-Zoom Register
Statistics using Excel	Oct. 01	Wednesday	9:00-11:00 A.M.	On-Zoom Register
Intro. To RStudio with SAGE Campus	Oct. 06	Monday	9:00-11:00 A.M.	On-Zoom Register
Intro. To Stata	Oct. 08	Wednesday	10:00-12:00 P.M.	On-Zoom Register
SPSS 1	Oct. 15	Wednesday	9:00-11:00 A.M.	On-Zoom Register
Statistics with ChatGPT	Oct. 16	Thursday	1:00-3:00 P.M.	In-Person Register --- On-Zoom Register
Intro. To SAS	Oct. 20	Monday	10:00-12:00 P.M.	On-Zoom Register
Intro. To R	Oct. 22	Wednesday	9:00-11:00 A.M.	On-Zoom Register