# **A Week of R at UNL**

Register at https://forms.gle/qyq68vnZCUhfT8MU9

Schedule is tentative and subject to change due to enrollment and lab availability

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| **Date** | **Time** | **Course** |
| **January 17** | **9am – 4pm** | **Introduction to R** |
| Learn the basics of R & Rstudio, how to write your own R scripts and get an introduction to the tidyverse. We’ll start with the beginning and quickly get you up to speed with the basic tools of data exploration. You will learn how to import and manage data sets, create R objects, install and load R packages, and how to ask for help in R. | | |
| **January 18** | **9am – 4pm** | **Graphics with ggplot2** |
| ggplot2 provides a framework to produce elegant, high-end graphical displays using the Grammar of Graphics. You will learn how to create a wide variety of graphical displays in R. We will use lots of data examples to wok through the basic plots as well as more advanced tools, such as facetting, colors, themes and more. | | |
| **January 19** | **9am – 4pm** | **Data Wrangling** |
| This workshop will to prepare you for dealing with messy data by walking you through real-life examples. We will help you to automate cleaning your data, fixing spelling errors, transforming variables, and generating data summaries using the split-apply-combine paradigm. We will also talk about wide and long format data and help you to convert between these formats and to know when each format is useful. | | |
| **January 20** | **9am – 4pm** | **Modeling** |
| Learn how to fit models, test hypotheses, create model output tables and plots, and more! In the morning, we will cover model-fitting basics (linear regression, mixed models), and in the afternoon we will look into more advanced types of models (generalized linear mixed models, etc.).  The last part of this session is designed as a workshop, so bring your data to analyze (we will have some data sets if you need one!) | | |

These workshops are developed and hosted by graduate students in the Statistics department at University of Nebraska-Lincoln, primarily to assist UNL students and staff with developing R skills necessary for research and data analysis. Individuals from outside the university are welcome to participate. Proceeds from the workshops directly fund graduate student activities.

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| **Workshop Type** | **Student** | **UNL Affiliate (Faculty/Staff/Extension)** | **Corporate** |
| **Full Day** | $40 | $60 | $200 |
| **Half Day** | $20 | $40 | $120 |
| **Full Week** | $125 | $250 | $1000 |

We accept exact cash, checks, or a University cost object. We cannot accept N-cards.

If you are anticipating registering more than 4 people who are **not UNL Affiliates** as a group, please feel free to contact [Susan Vanderplas](mailto:svanderplas2@unl.edu?subject=R Workshops Pricing) for a group rate.

If you are an independent student (e.g. not part of a research lab), and workshop pricing is an issue, please contact [Susan Vanderplas](mailto:svanderplas2@unl.edu?subject=R Workshops Pricing) for information about scholarships.

First Day Setup!

You will need to bring a laptop with the following software installed:

* R: https://cloud.r-project.org/ (version 4.0.0 or greater)
* RStudio: https://www.rstudio.com/products/rstudio/download/ (version 2021.09 or greater)
* [Windows only] Rtools: https://cloud.r-project.org/bin/windows/Rtools/

In R, please run the following code:

> # this will take a LONG time...

> install.packages(c("knitr", "rmarkdown", "tidyverse", "rvest", "xml2", "tinytex"))

> tinytex::install\_tinytex()

You will need to make sure that you have sufficient permissions on your machine to install R packages from CRAN. If you do not have admin access to your own machine, please work with your administrator to ensure that you can install R packages during the workshop if necessary, as this is an important skill to learn.