**R\_Tutorials\_Shannon**

**Contents**

**READ\_ME.docx**: documents contents of **R\_Tutorials\_Shannon** folder

**r\_markdown\_files**: Rmd files used to create and edit tutorials and other relevant files used in tutorial creation, including data files and images

**tutorials**: tutorials and all relevant material to post for students

* 00\_getting\_started.html
* 01\_rstudio\_r\_programming.html
* 01\_simple\_script.R
* 02\_read\_and\_explore\_data.html
* 03\_live\_demo.R
* 03\_univariate.html
* 04\_bivariate\_quantitative.html
* 05\_bivariate\_categorical.html
* coffee.csv

**Refer to the** [**Tutorial Guide**](#guide) **on the next page.**

**R Tutorial guide**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Tutorial | Objectives | Relevant files |
| 0 | Getting Started | * Download and install R and RStudio | **00\_getting\_started.html** |
| 1 | RStudio & R Programming Basics | * Understand the uses for each of the four panes in RStudio * Understand basic R syntax, including object assignment and comments * Run code from an R script and see the result in the console * Assign values to arguments inside R functions * Access R help documentation for functions | **01\_rstudio\_r\_programming.html**  **01\_simple\_script.R** |
| 2 | Read and Explore Data in R | * Set your current working directory * Read .csv files into R as a data frame * Explore and manipulate a data frame, including filtering and subsetting specific rows and columns | **02\_read\_and\_explore\_data.html**  **coffee.csv** |
| 3 | Summarizing Univariate Data | * Create a frequency table of counts and proportions for categorical data * Create bar and pie charts * Compute summary statistics for quantitative data * Create histograms and stem-and-leaf plots | **03\_univariate.html**  **coffee.csv**  optional: **03\_live\_demo.R**  *This is a blank script with comments only. It is a guideline for skills that instructors might demonstrate during one designated class session introducing R. Students are expected to have completed previous tutorials prior to the live demo (if applicable).* |
| 4 | Summarizing relationships between two quantitative variables | * Create a scatterplot * Compute the correlation coefficient * Estimate the regression equation (least-squares line) * Create residual diagnostic plots for linear regression | **04\_bivariate\_quantitative.html**  **coffee.csv** |
| 5 | Summarizing relationships between two categorical variables | * Create a contingency table of counts and percentages by row/column * Draw a block diagram * Compute the Chi-square statistic * Create a table of expected counts | **05\_bivariate\_categorical.html**  **coffee.csv** |

File colour legend: **TUTORIAL , DATA , SCRIPT**