This document needs to be saved to your Root Folder.

**Class Project**

The ***Class Project*** is the only assignment that you will be evaluated on in this class. The purpose of the ***Class Project*** is to apply the skills you learn in class to your own dataset(s). If you do not have a dataset, you can find one online (just google "R datasets"). There are many freely available datasets online [including hundreds at this website](https://vincentarelbundock.github.io/Rdatasets/datasets.html). You can use multiple script files in the project.

***To pass the class*** you need to:

1. Meet all the requirements in ***Table 1: Project Requirements Table***.
2. Complete 75% of the skills (42/56) in the ***Table 2: Skill List***.

Class Project submissions are sent to the instructor ([belinsky@msu.edu](mailto:belinsky@msu.edu)). The submission needs to include:

1. This document with the ***Table 2: Skill List*** filled out
2. All R script files used in your project
3. All data files used in your project
4. A list of R packages you used in your project. Put the list here:

|  |  |
| --- | --- |
| ***Table 1: Project Requirements*** | **Lesson** |
| 1. Script is commented | 1 |
| 1. All files need to be located within your Project’s Root Folder and this document is directly in your Root Folder | 1 |
| 1. Code is spaced out for readability (i.e., components and subcomponents easily recognized) | 1 |
| 1. Give a brief (1-2 sentences) description in the ***Description*** column of ***Table 2*** for each skill you used. | 1 |
| 1. Skills completed in ***Table 2*** are commented in your script file where the skill is demonstrated.   The comment should be # SKILL XX where XX is the skill number in ***Table 2***. | 1 |
| 1. Use of a reference script in your project | 2 |
| 1. Use of parameter names in your functions | 2 |

Note: letters in parenthesis are there for instructor use – you do not need to worry about it!

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| --- | --- | --- |
| ***Table 2: Skills List*** (you can use the same line(s) of code to satisfy multiple skills) | **Lesson** | **Description** (1-2 sentences – if you used this skill in your project) |
| 1. (C) Scatterplot | 2 |  |
| 1. (CP) Add title and subtitle to plot | 2,3 |  |
| 1. (CP) Scaling values on a continuous axis | 2 |  |
| 1. (S) Text rotation | 2 |  |
| 1. (C) Regression line | 3 |  |
| 1. (S) Changing the canvas theme | 3 |  |
| 1. (S) Label x and y axes | 3 |  |
| 1. (S) Point styling (color, size, shape) | 3 |  |
| 1. (S) Transparencies (alpha) | 3 |  |
| 1. (S) Text styling (size, color, type) | 3 |  |
| 1. (S) Line styling (type, color, size, fill) | 3 |  |
| 1. (C) Line plot | 4 |  |
| 1. (S) Panel styling | 4 |  |
| 1. (S) Outside the panel styling | 4 |  |
| 1. (P) Add column to data frame | 4 |  |
| 1. (P) Paste text values together | 4 |  |
| 1. (P) Changing date format (e.g, %y%m) | 4 |  |
| 1. (P) Grayscaling | 4 |  |
| 1. (P) Text justification | 4 |  |
| 1. (C) Histogram | 5 |  |
| 1. (C) Vertical or Horizontal line | 5,8 |  |
| 1. (C) Stacked histogram | 5 |  |
| 1. (S) Set bins or binwidth in histogram | 5 |  |
| 1. (C) Create a Facet grid | 5 |  |
| 1. (S) Bin styling | 5 |  |
| 1. (S) Repositioning legend | 5 |  |
| 1. (P) ***which()*** to search through a vector | 5 |  |
| 1. (P) Write to a data file | 5 |  |
| 1. (P) Which using multiple conditions ***&&***, ***||*** | 5 |  |
| 1. (P) Using ***quantile()*** | 6 |  |
| 1. (C) Boxplot | 6 |  |
| 1. (P) ***factor()*** to set levels | 6 |  |
| 1. (S) Outlier styles | 6 |  |
| 1. (C) Annotate plot (i.e., add text) | 6 |  |
| 1. (C) limits to set axis boundaries | 7 |  |
| 1. (S) Group boxplots using ***fill*** | 7 |  |
| 1. (S) Boxplot styling | 7 |  |
| 1. (S) Styles for individual boxes in a boxplot | 7 |  |
| 1. (S) Change labels on facet (use ***labeller***) | 7 |  |
| 1. (C) Barplot | 8 |  |
| 1. (S) Fill barplot by variable | 8 |  |
| 1. (S) Use gradient colors | 8 |  |
| 1. (S) Set bar width | 8 |  |
| 1. (P) Reorder data frame | 8 |  |
| 1. (S) RGB colors | 6,8 |  |
| 1. (C) Text plot | 9 |  |
| 1. (P) Formatting dates | 9 |  |
| 1. (S) Gradients breaks | 9 |  |
| 1. (C) Legend styling | 9 |  |
| 1. (P) grep to find patterns | 9 |  |
| 1. (P) grep with AND/OR to find patterns | 10 |  |
| 1. (C) plotting a subset of values | 10 |  |
| 1. (P) Combine conditions using ***intersect()***, ***union()***, or ***setdiff()*** | 10 |  |
| 1. (C) Multiple plots by row or column | 10 |  |
| 1. (C) Multiple plots using customized canvas | 10 |  |
| 1. (C) Multiple plots of different size using customized canvas | 10 |  |