**July 12th, 2018**

**Onboarding document for Co-ops in the MBTA Procurement & Logistics Department:**

Hi, I’m Robert Picard, a current Co-op at the MBTA Procurement & Logistics Department, and in the following bullets, will detail the onboarding process as simply and thoroughly as I can. **R**:

**Learning “R”—One of the two main Data Science Programming Language**

* If you do not have a strong background in R during your first week here, don’t worry.
* First start learning the Tidyverse package in R by learning *R for Data Science* by Hadley Wickham.
  + http://r4ds.had.co.nz/
* First learn and practice Chapter 12 – Tidy Data – This is by far the most important chapter to learn.
* After that, read Ch.1-Ch.6, but save Ch.3 – Data Visualization – for after Ch.6. Code alongside.
* Read and code Ch.18. Read Ch.19. Then read Ch.8-11. Code and read Ch.13 and 15.
* KableExtra is a great package for designing Tables (it’s the visual counterpart to ggplot but for tables)
  + <https://haozhu233.github.io/kableExtra/awesome_table_in_pdf.pdf>
* Topics to tackle as you encounter them, DO NOT forge ahead w/ consultation b/c you can save yourself a lot of effort and work with these packages below:

|  |  |  |
| --- | --- | --- |
| When you encounter… | Package to use… | Read or Reference Chapter(s) |
| Dates of any sort | Lubridate | Chpt. 16 |
| Strings | Stringr | Chpt. 14 |
| Iteration (For or While loops) | Purrr | Chpt. 21 |

\*Rmarkdown is somewhat being deprecated as we transition toward more web based interfaces, namely Shiny and Plotly. However it is a valuable tool to be aware of.

\*\* Do Not read Section IV on Models (Chpt 22-25) b/c we will model with **Python/Panda**—more particularly SciKitLearn (Panda’s is the second Data Science Language we use). http://scikit-learn.org/stable/

**FMIS and Department Specific Details**

Next, you’ll learn **FMIS**-(Financials & Materials Information System)-& more about the office by extension.

* 1st – Go to intranet.mbta.com, under “Enterprise Apps”, there is a button - “FMIS”, click this
* 2nd – Log in with your MBTA credentials
* 3rd – Learn how to create queries with the help of your supervisor(s)
* 4th – Always make a copy of any saved queries because a lot of the data is live/active
* 5th – Always be cautious in constructing new queries because identifying information is in the system

<ROBERT please add Screenshots when you become more familiar with FMIS>