Data Science and OCS

# Data Science and The Office of Career Services

Demands on *OCS’* data are growing rapidly. In addition to the pressures of paperless training registration, OCS is also charged with answering increasingly granular questions regarding trainings delieverd by officer or contractor, hours per unit or by category, as well as evaluating the effectiveness and retention of trainings delivered. It is not difficult to imagine that, along with these descriptive figures, the Court will want more *inferential* statitsics as well. Put differently, OCS will have to describe the kind of work that is done, but also demonstrate that training has a positive effect on probation outcomes. While this report will clearly showcase how data science can improve OCS’ data maturity, the tools and methods described here can easily shifted towards other research projects.

# Tools and Methods

This report uses [R](https://www.r-project.org) and [R Studio](https://www.rstudio.com) for the statisitcal analysis as well as the body of the report. The 2017 data was captured by OCS staff into an Excel spreadsheet, commonly referred to as the “Training Database.”

require(lubridate)  
  
##library(lubridate)  
##Data <- Data %>%  
## mutate(qtr = paste0(substring(year(date),2,4),"/0",quarter(date)))   
##from Jeff Parker, https://stackoverflow.com/users/6896760/jeff-parker  
  
  
quarter\_date <- function(x, na.rm, ...) {  
 origin\_default <- "1899-12-30"  
 quarter(x, with\_year = TRUE)  
}  
  
  
date\_test <- as.Date(trainings$Training\_end\_date, origin = "1899-12-30")

# Sworn Staff

The following sworn staff did not make their hours in 2017 AND there was no documentation about their status regarding leave or retirement. It appears from my reading that there are 4 officers who do not have their totals done.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EMPLOYEE | LEAVE START | LEAVE END | TOTAL | TOTAL HOURS |
| Alexander, Dennis | NA | NA | 20 | 13.0 |
| Dixon, Denise | NA | NA | 20 | 6.0 |
| Harrell, Michael | NA | NA | 20 | 0.0 |
| Haynes, Jeff | NA | NA | 20 | 16.0 |
| Kowal, Keith | NA | NA | 20 | 16.5 |
| McKnight, Jeff | NA | NA | 20 | 5.0 |
| Patla, Susan | NA | NA | 20 | 12.5 |
| Salazar, Arnie | NA | NA | 20 | 15.0 |
| Samuels, Sharon | NA | NA | 20 | 0.0 |
| Spencer, Marcus | NA | NA | 20 | 15.5 |
| Sullivan,Megan | NA | NA | 20 | 18.5 |
| ## Sworn Staff Metri | cs |  |  |  |

# Support Professionals

The following support professionals did not not hit their requisite 10 hours, and there was no documenation indicating status of leave or retirement.

# Number of Trainings

530 trainings were offered in FY 2017 based on the records in the database. We appear to have missed the training target by 11%, and a reduction from 2016’s actual by [[1]](#footnote-28). The titles of all trainings were as follows:

# Trainings by Code

1. 600 - 531 = 69, and 69/600 = 0.115. 587 was the 2016 actual, which gives us 56, and 56/587 = 0.0954003. [↑](#footnote-ref-28)