

Timing of Evaluations

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Data Import

Exported **Assignment Type Summaries** from GradeCraft and imported.

```
library(readr)
library(dplyr)
library(tidyr)
datafile <- 'Principles of Nutritional Sciences Submissions - 2018-07-17.csv'

library(readr)
dataset <- read_csv(datafile, col_types=
  cols(`Assignment Type` = col_factor(levels=NULL)))

dropped.students <- c('dave.bridges','ajian','zhongyli')

dataset <- separate(dataset, `Updated At`, sep=",", into=c('Day','Date','Time'))

library(lubridate)
#converted dates
dataset$Date.Year <- paste(dataset$Date, ' 2017', sep=" ")
dataset$Date.Year <- mdy(dataset$Date.Year)

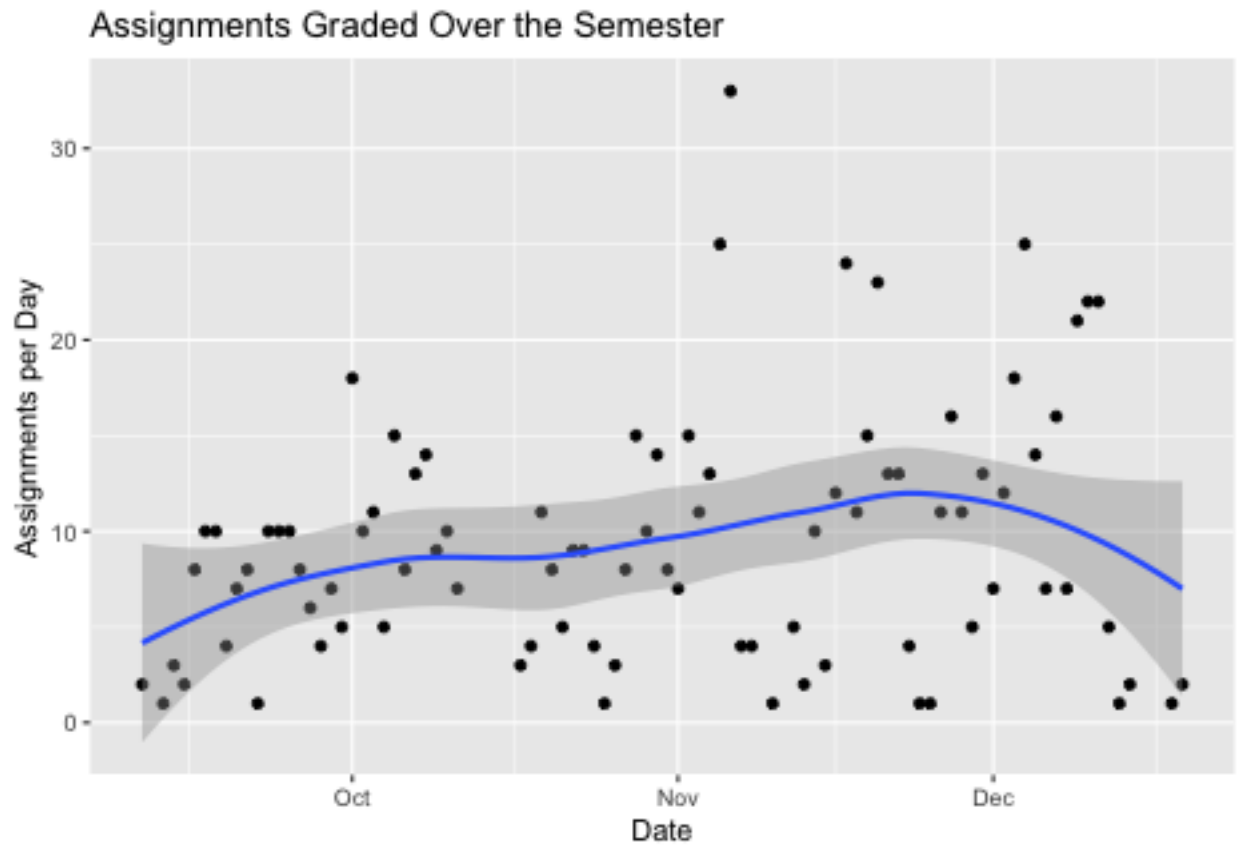
#calculated cumulative sum of scores by date
sum.scores <-
  dataset %>%
  group_by(Date.Year) %>%
  summarize(Points.Awarded = sum(Score),
    Assignments.Graded = length(Score)) %>%
  mutate(Total.Points = cumsum(Points.Awarded))
```

Assignments Graded Over Time

```
library(ggplot2)

ggplot(sum.scores, aes(y=Assignments.Graded,x=Date.Year)) +
  geom_point() +
  geom_smooth() +
```

```
labs(y="Assignments per Day",
     x="Date",
     title="Assignments Graded Over the Semester")
```

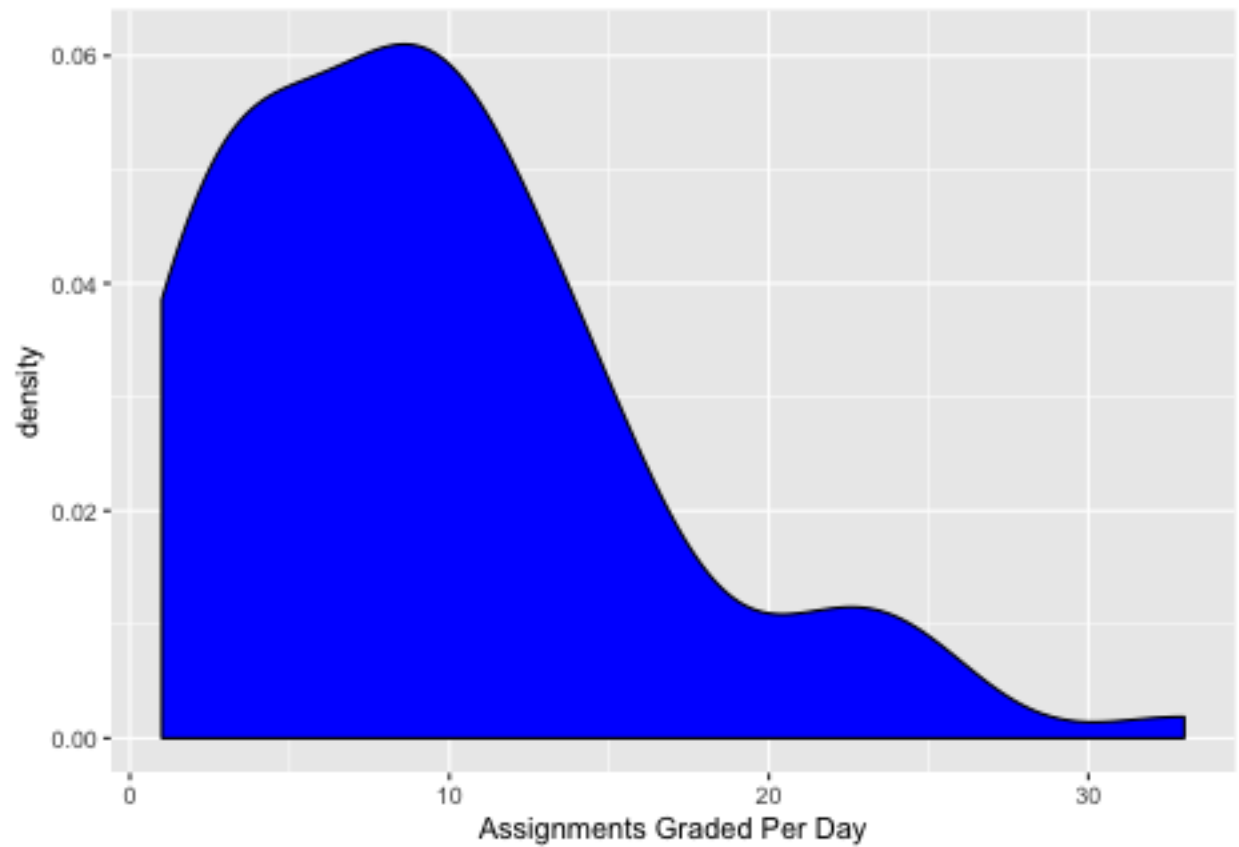


```
summary(sum.scores$Assignments.Graded) %>% broom::tidy() %>% kable(caption="Summary Statistics for Assignments Graded Per Day")
```

Table 1: Summary Statistics for Assignments Graded Per Day

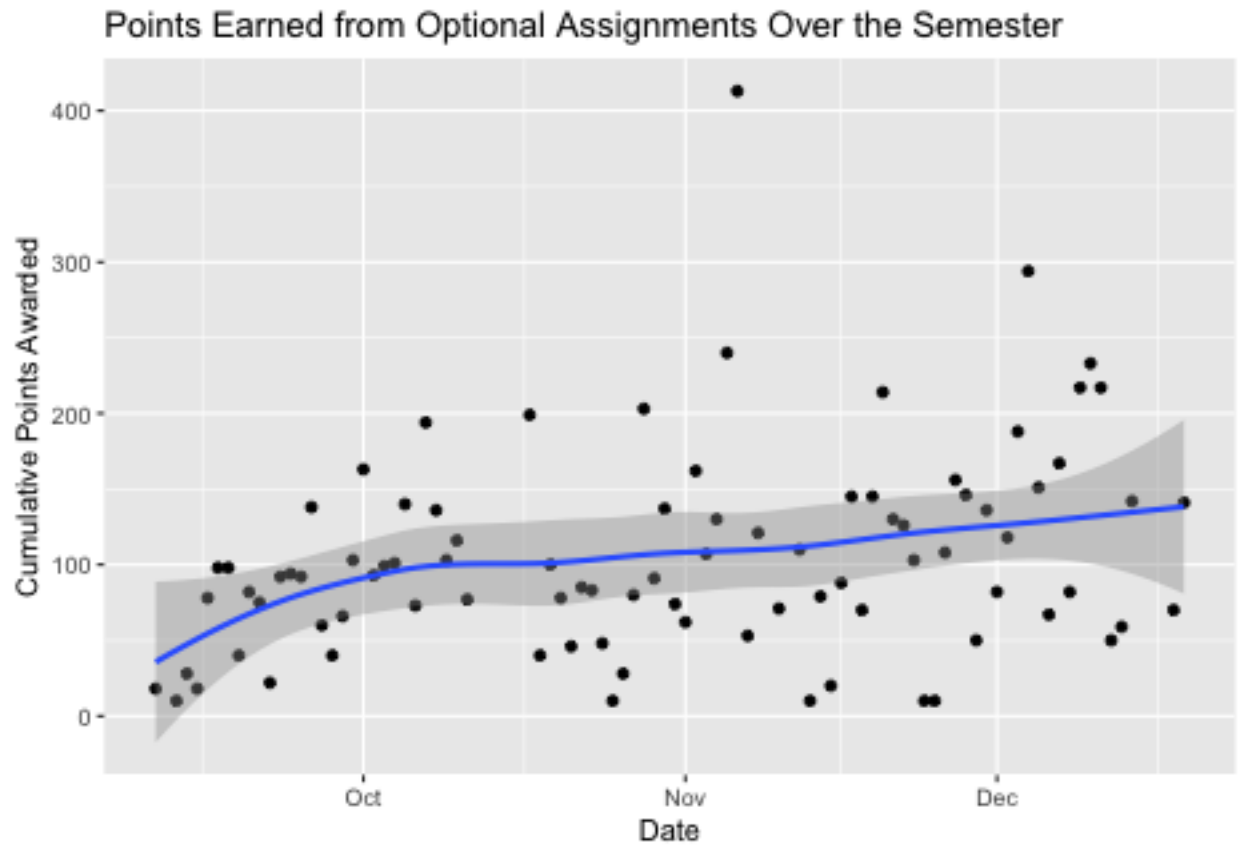
minimum	q1	median	mean	q3	maximum
1	4	8	9.39	13	33

```
ggplot(sum.scores, aes(x=Assignments.Graded)) +
  geom_density(fill='blue') +
  labs(x="Assignments Graded Per Day")
```

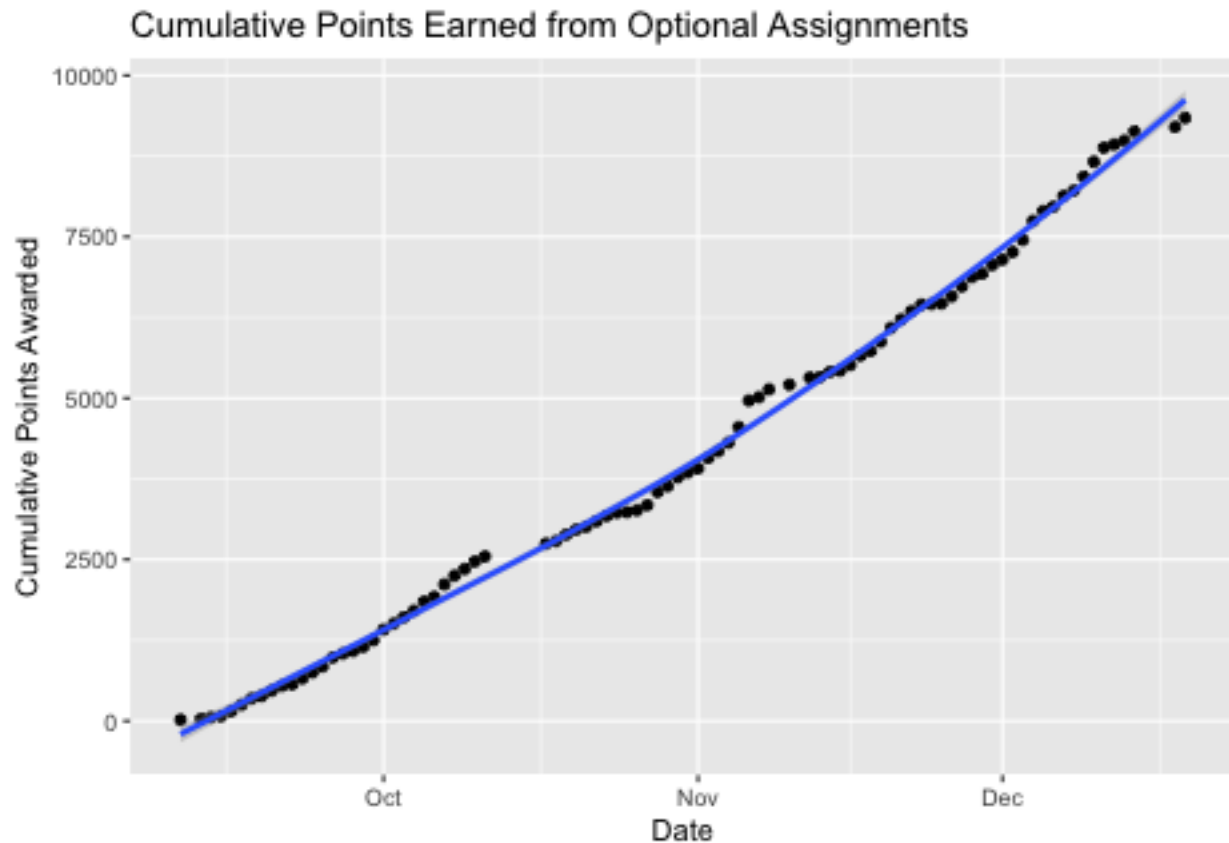


Points Earned Over Time

```
ggplot(sum.scores, aes(y=Points.Awarded,x=Date.Year)) +  
  geom_point() +  
  geom_smooth() +  
  labs(y="Cumulative Points Awarded",  
        x="Date",  
        title="Points Earned from Optional Assignments Over the Semester")
```



```
ggplot(sum.scores, aes(y=Total.Points,x=Date.Year)) +  
  geom_point() +  
  geom_smooth() +  
  labs(y="Cumulative Points Awarded",  
        x="Date",  
        title="Cumulative Points Earned from Optional Assignments")
```



Session Information

```
sessionInfo()
```

```
## R version 3.5.0 (2018-04-23)
## Platform: x86_64-apple-darwin15.6.0 (64-bit)
## Running under: macOS High Sierra 10.13.5
##
## Matrix products: default
## BLAS: /Library/Frameworks/R.framework/Versions/3.5/Resources/lib/libRblas.0.dylib
## LAPACK: /Library/Frameworks/R.framework/Versions/3.5/Resources/lib/libRlapack.dylib
##
## locale:
## [1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods   base
##
## other attached packages:
## [1] ggplot2_3.0.0  bindrcpp_0.2.2  lubridate_1.7.4  tidyr_0.8.1
## [5] dplyr_0.7.6    readr_1.1.1     knitr_1.20
##
## loaded via a namespace (and not attached):
## [1] Rcpp_0.12.17    highr_0.7       pillar_1.2.3    compiler_3.5.0
```

## [5]	plyr_1.8.4	bindr_0.1.1	tools_3.5.0	digest_0.6.15
## [9]	evaluate_0.10.1	tibble_1.4.2	gtable_0.2.0	nlme_3.1-137
## [13]	lattice_0.20-35	pkgconfig_2.0.1	rlang_0.2.1	psych_1.8.4
## [17]	parallel_3.5.0	yaml_2.1.19	withr_2.1.2	stringr_1.3.1
## [21]	hms_0.4.2	rprojroot_1.3-2	grid_3.5.0	tidyselect_0.2.4
## [25]	glue_1.2.0	R6_2.2.2	foreign_0.8-70	rmarkdown_1.10
## [29]	reshape2_1.4.3	purrr_0.2.5	magrittr_1.5	backports_1.1.2
## [33]	scales_0.5.0	htmltools_0.3.6	mnormt_1.5-5	assertthat_0.2.0
## [37]	colorspace_1.3-2	labeling_0.3	stringi_1.2.3	lazyeval_0.2.1
## [41]	munsell_0.5.0	broom_0.4.5		