Course evals

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```
library(pequod)
```

```
## Loading required package: ggplot2
```

```
## Loading required package: car
```

```
## Loading required package: carData
```

```
library(readr)
library(janitor)
```

```
##
## Attaching package: 'janitor'
```

```
## The following objects are masked from 'package:stats':
##
##     chisq.test, fisher.test
```

```
library(gmodels)
library(productplots)
library(CGPfunctions)
```

```
## Registered S3 method overwritten by 'DescTools':
##   method         from
##   reorder.factor gdata
```

```
## Warning in checkMatrixPackageVersion(): Package version inconsistency detected.
## TMB was built with Matrix version 1.2.17
## Current Matrix version is 1.2.18
## Please re-install 'TMB' from source using install.packages('TMB', type = 'source') or ask CRAN for a
```

```
## Registered S3 method overwritten by 'broom.mixed':
##   method      from
##   tidy.gamlss broom
```

```
## Registered S3 methods overwritten by 'lme4':
##   method                          from
##   cooks.distance.influence.merMod car
##   influence.merMod                car
##   dfbeta.influence.merMod         car
##   dfbetas.influence.merMod        car
```

```
library(pequod)
library(jtools) # for summ()
library(ggpubr)
```

```
data01 = read_csv("data.csv")
```

```
## Parsed with column specification:
## cols(
##   .default = col_character(),
##   Invited = col_double(),
##   Responded = col_double()
## )
```

```
## See spec(...) for full column specifications.
```

```
data01<-na.omit(data01)
data01
```

```
## # A tibble: 92 x 30
##    Course Campus Term  Section Invited Responded Mean1 Mean2 Mean3 Mean4 Mean5
##    <chr>  <chr>  <chr> <chr>     <dbl>     <dbl> <chr> <chr> <chr> <chr> <chr>
##  1 JRE42~ UTSG   Fall~ LEC0103      55        18 2.4   2.5   2.8   2.7   2.8
##  2 JRE42~ UTSG   Fall~ LEC0103      54        14 3.2   3.1   3.6   3.2   3.2
##  3 JRE42~ UTSG   Fall~ LEC0103      55        37 2.5   2.8   3.8   3     3.1
##  4 JRE42~ UTSG   Fall~ LEC0103      53        14 2.8   3.6   3.6   3.1   3.2
##  5 JRE42~ UTSG   Summ~ LEC0101      48        20 3.5   3.6   4     3.5   3.4
##  6 JRE42~ UTSG   Wint~ LEC0103      52        16 2.4   2.1   2.3   2.4   2.5
##  7 JRE42~ UTSG   Wint~ LEC0103      55        31 2.9   3.2   3.4   2.9   3
##  8 JRE42~ UTSG   Wint~ LEC0103      46        14 3.7   4     4.3   4.1   4.1
##  9 MGHB0~ UTSC   Fall~ LEC01        62        18 2.6   2.7   3.2   2.8   2.9
## 10 MGHB0~ UTSC   Fall~ LEC01        52        28 2.7   2.8   2.9   2.5   2.8
## # ... with 82 more rows, and 19 more variables: Mean6 <chr>, Median1 <chr>,
## #   Median2 <chr>, Median3 <chr>, Median4 <chr>, Median5 <chr>, Median6 <chr>,
## #   Mode1 <chr>, Mode2 <chr>, Mode3 <chr>, Mode4 <chr>, Mode5 <chr>,
## #   Mode6 <chr>, StdDev1 <chr>, StdDev2 <chr>, StdDev3 <chr>, StdDev4 <chr>,
## #   StdDev5 <chr>, StdDev6 <chr>
```

```
# filter UTSC data
UTSC_Data <-  data01[data01$Campus=="UTSC",]
UTSC_Data <- na.omit(UTSC_Data)
# filter UTM data
UTM_Data <-  data01[data01$Campus=="UTM",]
UTM_Data <- na.omit(UTM_Data)
# filter UTSG data
UTSG_Data <-  data01[data01$Campus=="UTSG",]
UTSG_Data <- na.omit(UTSG_Data)
```

```
# calculate response rate for each course
data_RR<-data01$Responded/data01$Invited
data_RR<-na.omit(data_RR)

data_RR_UTSC<-UTSC_Data$Responded/UTSC_Data$Invited
data_RR_UTSC<-na.omit(data_RR_UTSC)

data_RR_UTSG<-UTSG_Data$Responded/UTSG_Data$Invited
data_RR_UTSG<-na.omit(data_RR_UTSG)

data_RR_UTM<-UTM_Data$Responded/UTM_Data$Invited
data_RR_UTM<-na.omit(data_RR_UTM)
# print out the average of the response rate for each campus
print(paste("Total avg response rate is: ",mean(data_RR)))
```

```
## [1] "Total avg response rate is:  0.343801101306044"
```

```
print(paste("UTSC avg response rate is: ",mean(data_RR_UTSC)))
```

```
## [1] "UTSC avg response rate is:  0.335847140407165"
```

```
print(paste("UTM avg response rate is: ",mean(data_RR_UTM)))
```

```
## [1] "UTM avg response rate is:  0.360746890577574"
```

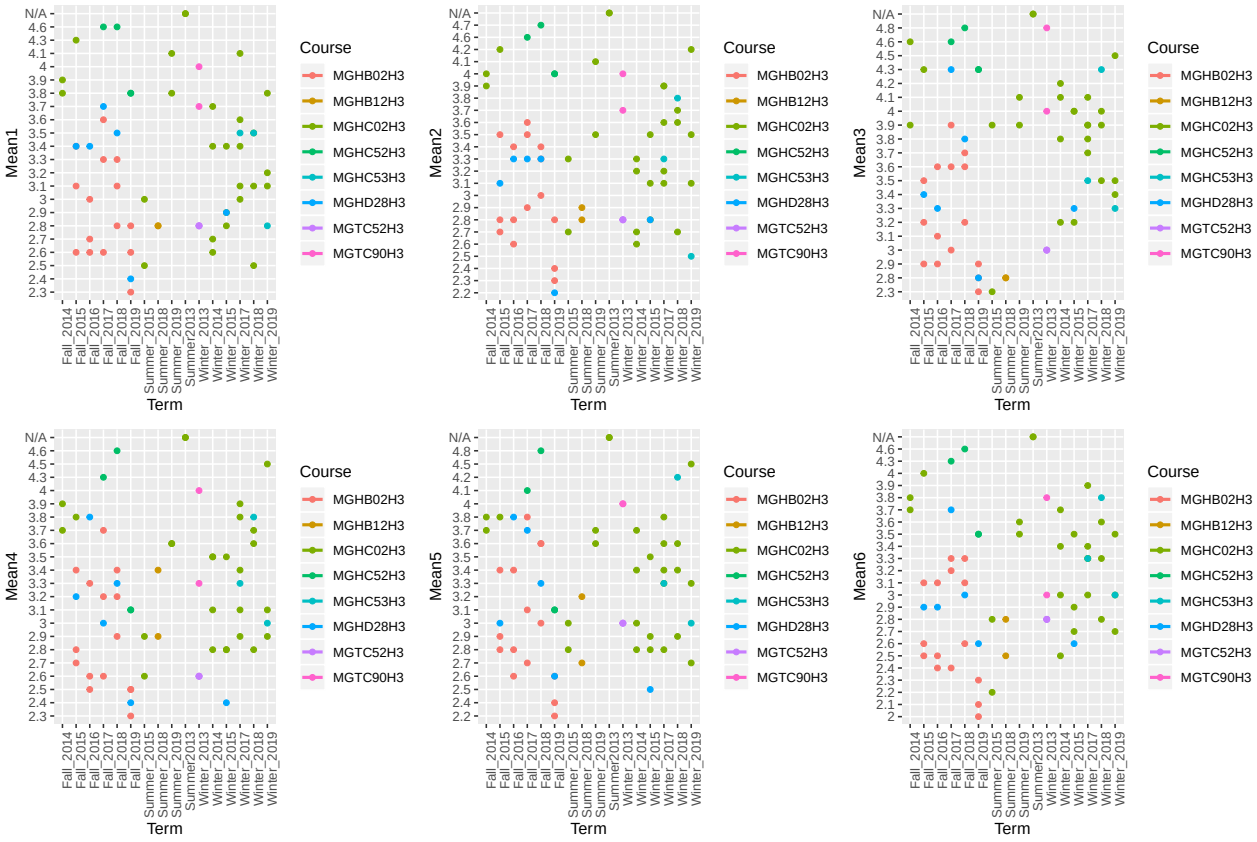
```
print(paste("UTSG avg response rate is: ",mean(data_RR_UTSG)))
```

```
## [1] "UTSG avg response rate is:  0.357633288156258"
```

```
# Just make plots and put term in x axis and means in y axis
  g1 <- ggplot(UTSC_Data, aes(x=Term, y=Mean1, color=Course)) +
  geom_point() +
  geom_smooth(method=lm, se=FALSE, fullrange=TRUE) + theme(axis.text.x = element_text(angle = 90, hjust

  g2 <- ggplot(UTSC_Data, aes(x=Term, y=Mean2, color=Course)) +
  geom_point() +
  geom_smooth(method=lm, se=FALSE, fullrange=TRUE) + theme(axis.text.x = element_text(angle = 90, hjust
    g3 <- ggplot(UTSC_Data, aes(x=Term, y=Mean3, color=Course)) +
  geom_point() +
  geom_smooth(method=lm, se=FALSE, fullrange=TRUE) + theme(axis.text.x = element_text(angle = 90, hjust
      g4 <- ggplot(UTSC_Data, aes(x=Term, y=Mean4, color=Course)) +
  geom_point() +
  geom_smooth(method=lm, se=FALSE, fullrange=TRUE) + theme(axis.text.x = element_text(angle = 90, hjust
        g5 <- ggplot(UTSC_Data, aes(x=Term, y=Mean5, color=Course)) +
  geom_point() +
  geom_smooth(method=lm, se=FALSE, fullrange=TRUE) + theme(axis.text.x = element_text(angle = 90, hjust
          g6 <- ggplot(UTSC_Data, aes(x=Term, y=Mean6, color=Course)) +
  geom_point() +
  geom_smooth(method=lm, se=FALSE, fullrange=TRUE) + theme(axis.text.x = element_text(angle = 90, hjust


# combine all the plots in one view for easier comaprison
ggarrange(g1, g2, g3,g4,g5,g6,
ncol = 3, nrow = 3)
```


Mean1
Mean2
Mean3
Mean4
Mean5
Mean6
Term
Course
MGHB02H3
MGHB12H3
MGHC02H3
MGHC52H3
MGHC53H3
MGHD28H3
MGTC52H3
MGTC90H3