Lecture 2

Study Design Considerations & R Markdown

agenda

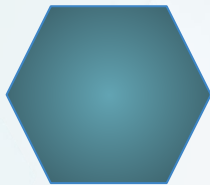|	
Announcements (5 min)	Homework, RStudio Cloud + [cheatsheets](#)
Study design (50 min)	Group activity - practice designing a study based on a research question Discussion on [ethics](#)
RMarkdown (40 min)	Mini-lecture on R Markdown, then some live coding
Sum up (5 min)	Summarize what we learned and reminders.

Homework 1

Now available!
Due online, September 7th by 11:59pm.
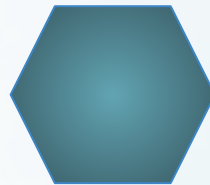You must submit BOTH a pdf/doc and .Rmd

Design a study activity

Get into groups

10 groups
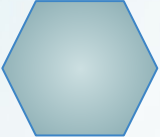Call 1-10 down by row,
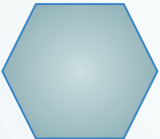then find your group #

Activity time!

Choose a:
- **Facilitator** to keep everyone on track
- **Note taker** to write in the Google Doc
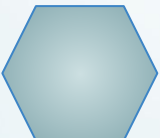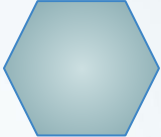- **Presenter** to share with the class
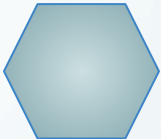
Why use R?

R

cost
it's free!

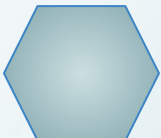good for stats
it's written by and
for statisticians

popular
it's a well-used
programming language

employability
it's a great skill to have
on your resumeé

open-source
It's easy to share
code with others

reproducibility
it makes for good
research

What can you do in R?

- manipulate data
  - summarize
  - plot
  - model
- simulate data
- develop new methods
- supports multi-core task distribution
- can be used on high performance computer clusters
- version control

What is R Studio®?

interface for R

easy to code, plot,
etc. all in one place

it includes

code editor, console,
tools for debugging

Git

supports Git for
version control

Finding support

R-bloggers

StackOverflow

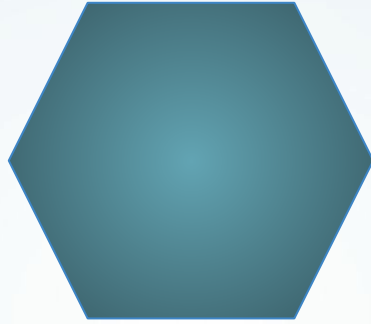Canvas discussion board

Intro to R Markdown

See slides here

Let's practice!

Open RStudio on your desktop or in RStudio Cloud

Summarize

Spend 3 minutes writing something down that you want your future self to remember