

# MGMT 228: Analytical Methods

Use the web to find us an example of "statistics" being used in the world to make an argument.

**ANY** and **ALL** examples welcome.

Justin Leinaweaver (Spring 2022)

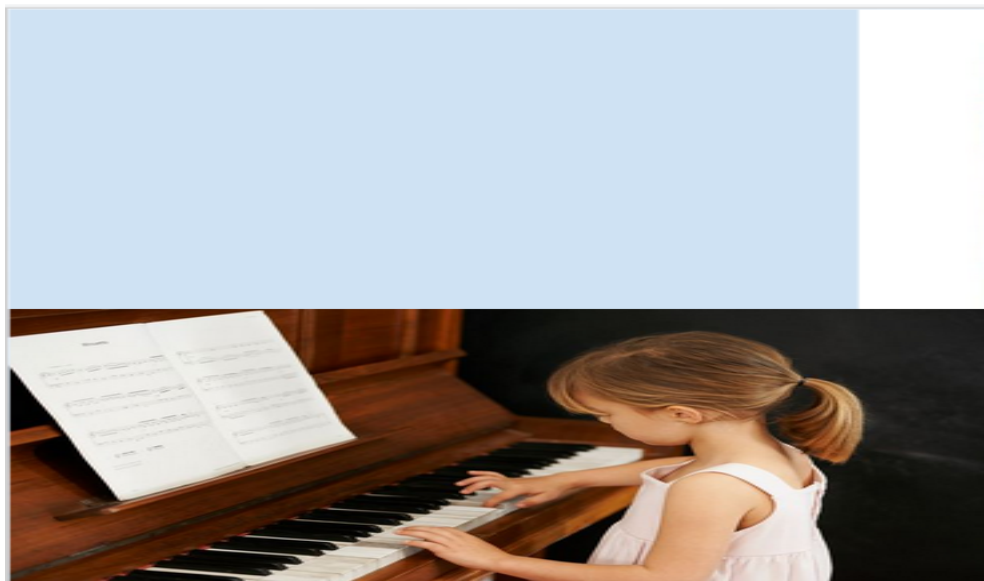
# Introductions

- Name
- Year in school
- Major
- Dream job

What is something you learned in intro statistics (MATH 227) that has proved useful in your life?

What is something you learned in  
intro statistics (MATH 227)?

Optional: ...that has proved useful  
in your life?



# Learning Outcomes

By the end of the semester you will be able to:

- 1 Collect and critically evaluate data from a variety of sources (e.g. government sources, surveys, etc.)
- 2 Use basic data analytics tools to support decision-making (e.g. univariate, bivariate and multivariate approaches including regression), and
- 3 Apply a set of more advanced tools that expand the utility of these models (e.g. forecasting, seasonality, nonlinearity, constrained dependent variables, etc.).

Backup your files to the cloud!



On



**Dropbox**

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## Grade

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Participation	25%
Visualizations Report	15%
Simple OLS Report	20%
Multiple OLS Report	20%
Final Report	20%

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# Participation

- Get to class on time,
- Have the materials you need to be productive,
- Do the work in class, and
- Save your work.

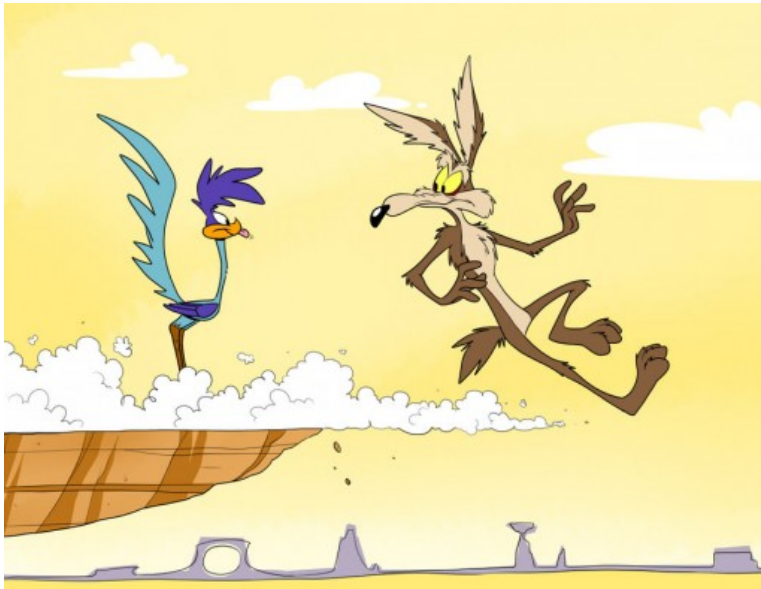
# Excused absence coming up?

It is your  
responsibility to  
be responsible  
for your  
responsibilities.

somee cards  
user card



It is your responsibility to notify me and to complete  
a make-up assignment.



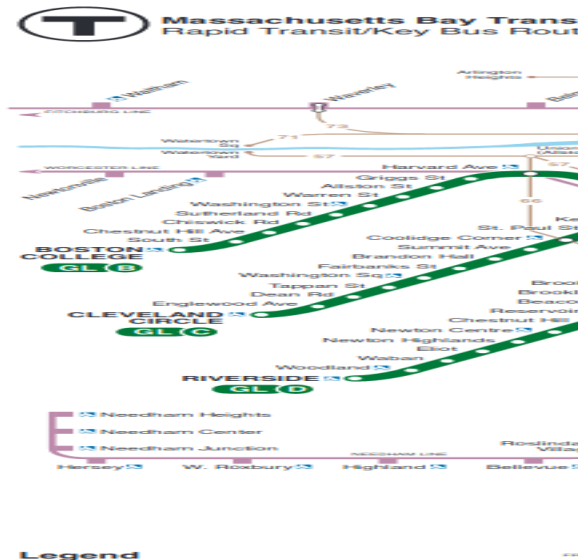
**YEAH, IF YOU COULD KEEP ME IN  
THE LOOP**

**THAT'D BE GREAT**

memegenerator.net

**What is a model?**

# The Boston "T"





## Rapid Transit and Key Bus Routes

MASSACHUSETTS BAY  
TRANSPORTATION AUTHORITY  
MBTA.COM



### Legend

- Blue Line
- Green Line and its branches
- Mattapan High Speed Line
- Orange Line

- Red Line
- Silver Line (Bus Rapid Transit)
- Transfer station
- Subway transfer station to bus/commuter rail

- Commuter Rail
- Key Bus Route (Frequent Service)
- Commuter Ferry Route
- AMTRAK Service

### Accessibility

- All bus, ferry services, not marked commuter rail and subway stations are accessible.
- Not accessible station

### Customer Service and Travel Information

- 877-222-3200  
800-392-6100  
617-222-3146 TTY
- Website  
www.mbta.com

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## Rapid Transit and Key Bus Routes

MASSACHUSETTS BAY  
TRANSPORTATION AUTHORITY  
MBTA 5084



### Legend

- Blue Line
- Green Line and its branches
- Mattapan High-Speed Line
- Orange Line
- Red Line
- Silver Lines (Blue Rapid Transit)
- Transfer Station
- Subway transfer station to Supercommuter rail

- Commuter Rail (Frequent Service)
- Key Bus Route (Frequent Service)
- Commuter Ferry Route
- AMTRAK Service

### Accessibility

- All bus, ferry services, and selected commuter rail and subway stations are accessible.
- Not accessible station

### Customer Service and Travel Information

- 617-222-3200
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- 617-222-5148 TTY
- Website: [www.mbta.com](http://www.mbta.com)





Maps are:

- Neither true nor false
- Limited in their accuracy
- Partial representations
- Useful for only some uses
- A reflection of the interests of the designer



## Scientific models are:

- Neither true nor false
- Limited in their accuracy
- Partial representations
- Useful for only some uses
- A reflection of the interests of the designer

# Our Plan This Semester

## **Build models to answer questions with data**

- What drives economic investment in US states?
- Why do some countries attract greater levels of international investment than others?
- What explains why some individuals make more money than others?