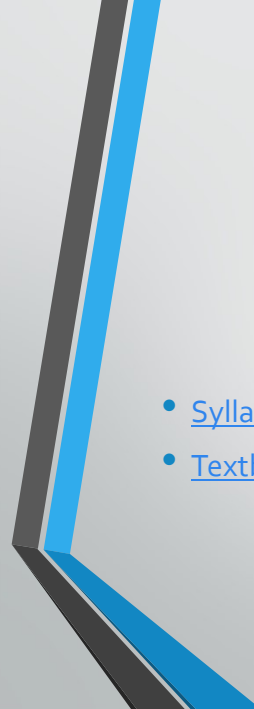


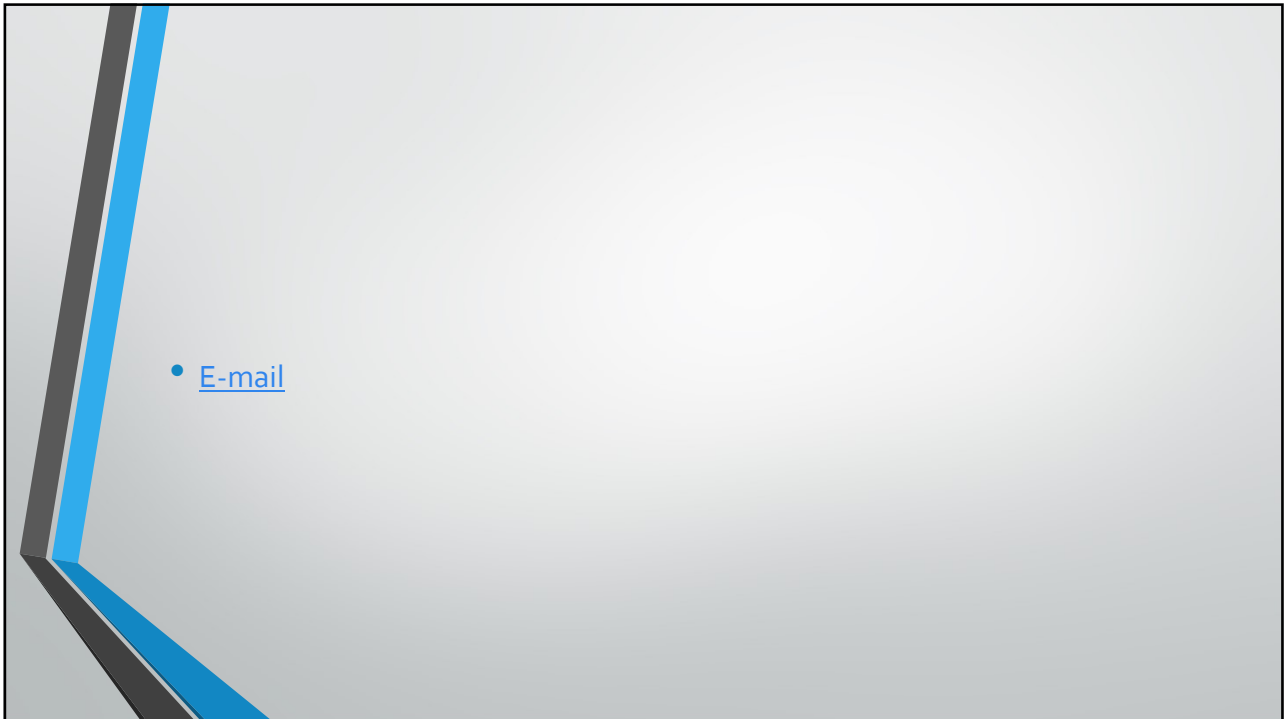
ECO239 Statistics I

Week 1
Why Study Statistics?

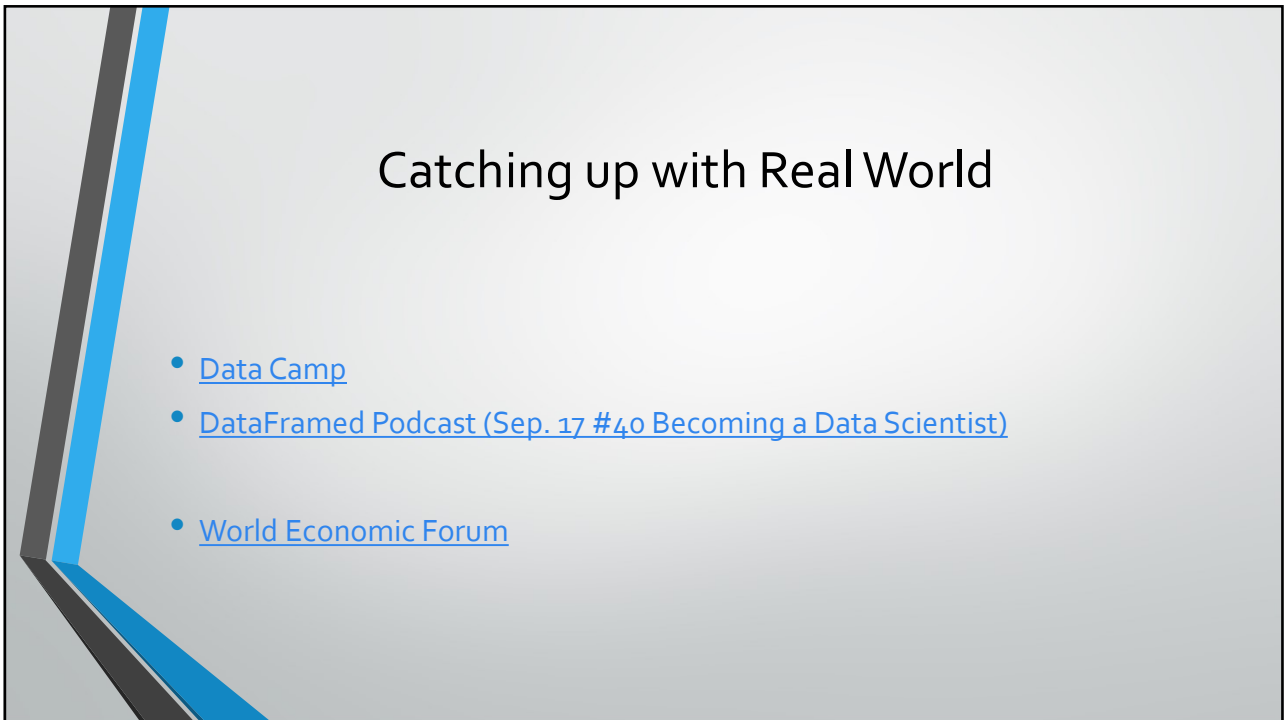


First thing first.

- [Syllabus](#)
- [Textbook](#)

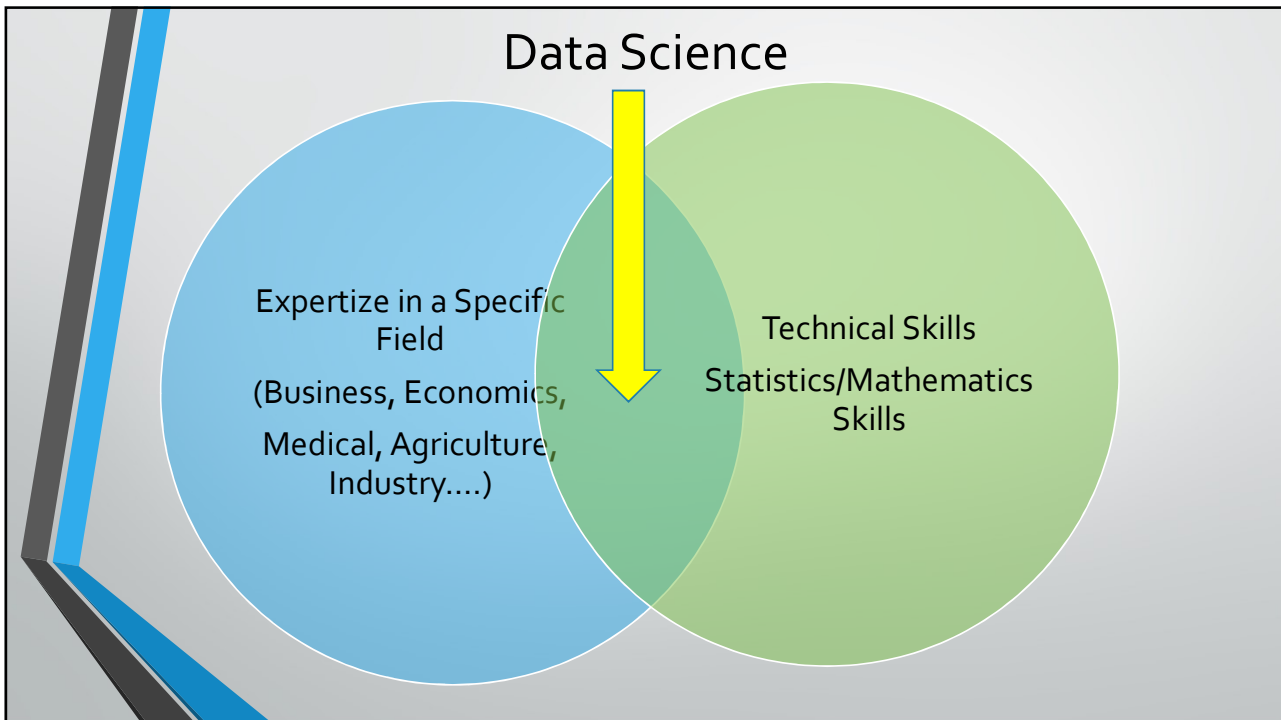


- [E-mail](#)

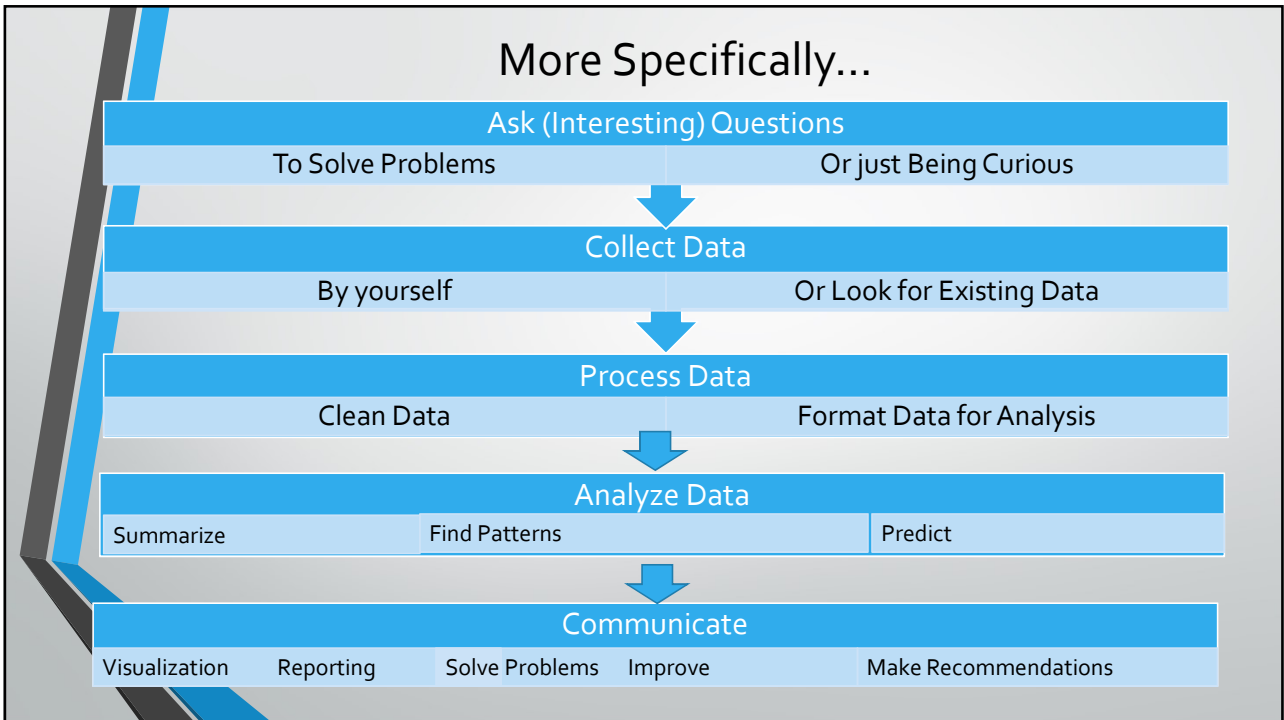
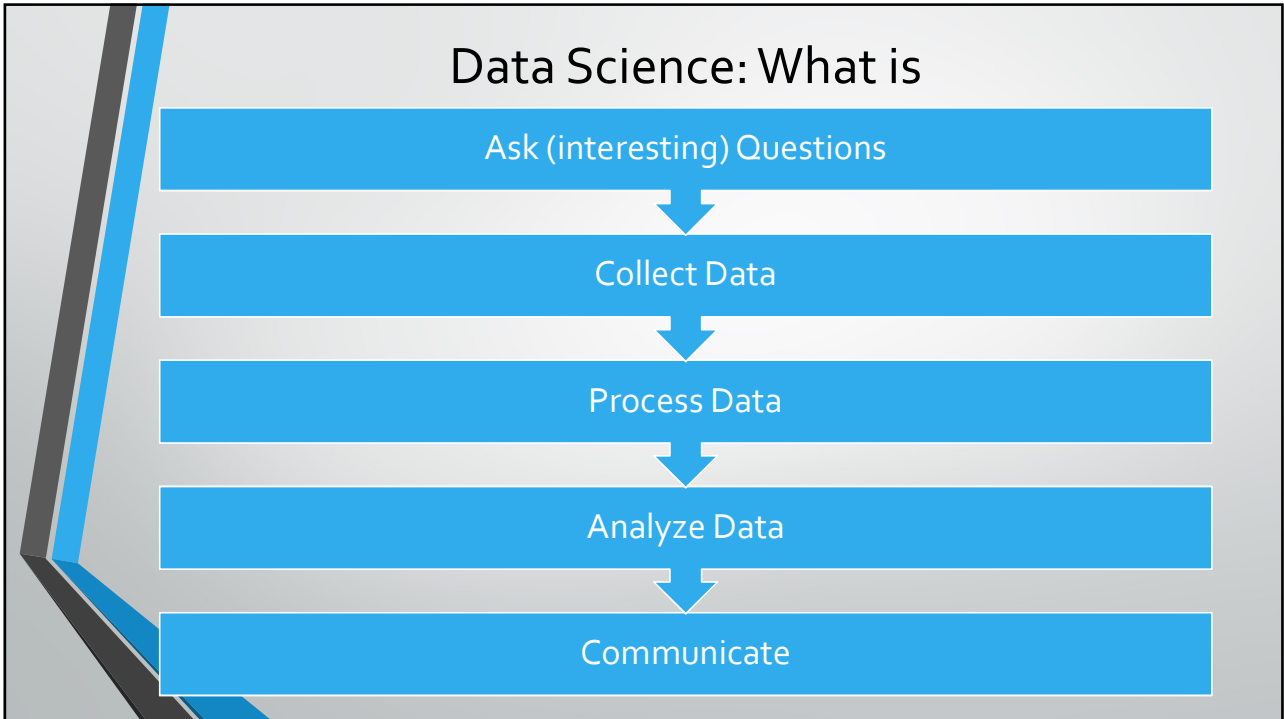


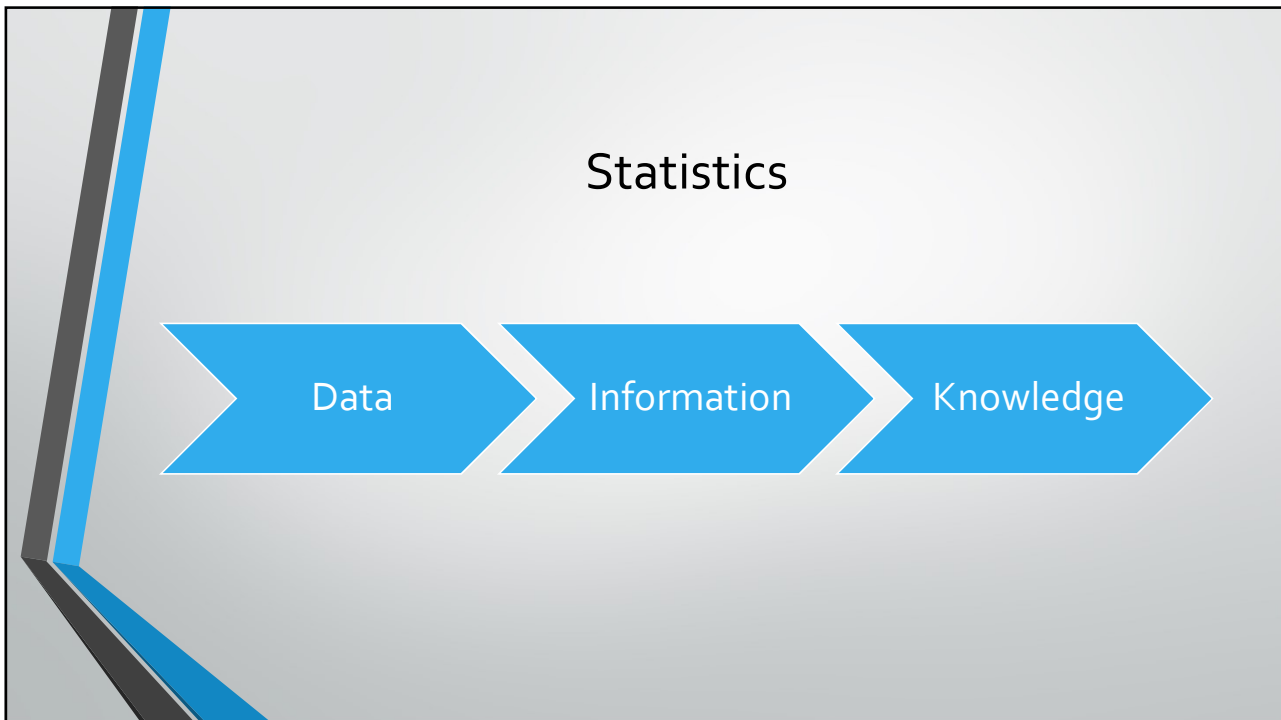
Catching up with Real World

- [Data Camp](#)
- [DataFramed Podcast \(Sep. 17 #40 Becoming a Data Scientist\)](#)
- [World Economic Forum](#)



Data Science
=
Make Discoveries while Swimming in Data





Ask (Interesting) Questions

- What kind of (research) questions do you have in your mind?
- What kind of problems do you have in your daily life which you can solve?
- What kind of questions do you have when you read daily news?
- Are you curious about anything???

The illustration shows three silhouettes of people in business suits at the bottom. Above them are three thought bubbles. The central thought bubble is larger and contains a glowing yellow lightbulb with a lightning bolt inside, symbolizing an idea or insight. The background is a light gray gradient with a decorative blue and black border on the left side.

Asking (interesting) Questions

Resolving Daily Life Problems	Business Chance	Resolving Economic (Health, Developmental, Refugee, Transportation, ...)Problems



The shortage of data scientists is becoming a serious constraint in some sectors.

Hot Job Opportunities???

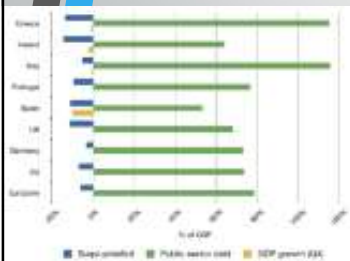
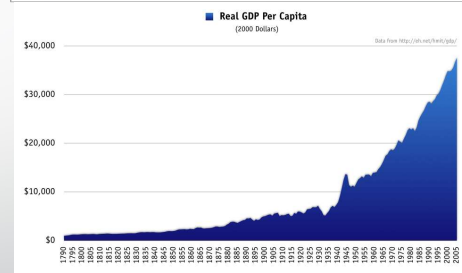
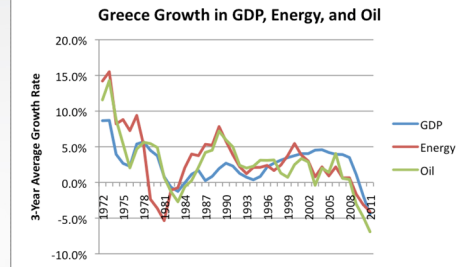
- [Google](#)
- [Amazon](#)
- [Facebook...](#)

Importance of Data Analysis

- List the Jobs which DOES NOT involve ANY DATA.
- List the jobs which DOES involve ANY DATA.
- List the jobs which DOES involve LOTS of DATA.

...and you are in Economics

- Data will be around you ALL the TIME



Year	Unemployment Rate	Real GDP (in billions of dollars)	Federal Spending (in millions of dollars)
1929	3.2%	\$951.7	\$3,127
1930	8.9%	\$862.1	\$3,320
1931	16.3%	\$788.8	\$3,577
1932	24.1%	\$682.9	\$4,659
1933	25.2%	\$668.6	\$4,598
1934	22.0%	\$719.8	\$6,541
1935	20.3%	\$778.2	\$6,412
1936	17.0%	\$888.2	\$8,228
1937	14.3%	\$932.5	\$7,580
1938	19.1%	\$890.8	\$6,840

Source - The Great Depression - Fed Bank - St. Louis

In ECO239 and 240, we mainly focus on

Analyze Data

Summarize

Find Patterns

Predict

Communicate

Visualization

Reporting

Solve Problems

Improve

Make Recommendations

You think it's not enough?

- You will continue acquiring the "Data Science" knowledge, tools and techniques in **Econometrics I and II, Time Series Analysis, Decision Theory,** among other classes for obtaining Expertise in Economics.

In this semester, we will focus on

- Sampling Data
- Visualization of Data
- Summarizing and Presenting Data
- Probability
- Important Distributions (characterizing data)

So basically, all about data.

R Program

- Go to <https://www.r-project.org/> and download the latest R
- Then download R Studio from <https://www.rstudio.com/>
- Homework

Data Visualization

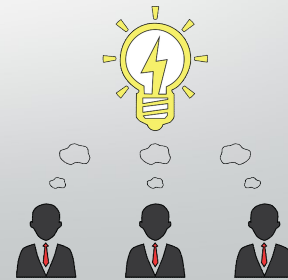


Data Visualization

- We will learn Data Visualization using R program.
- ggplot2

Why is it important to learn statistics?

- Any idea?



Why is it important to learn statistics?

- To make correct (/ rational) decision making under uncertainty..
- To correctly understand the facts around us / about us.
- To suggest the evidence(data)-based solutions.
- To protect yourself from misleading information / lies / data modification
-

Do you know that “Correlation” and
“Causation” are different?

TED^x Delft

x = independently organized TED event