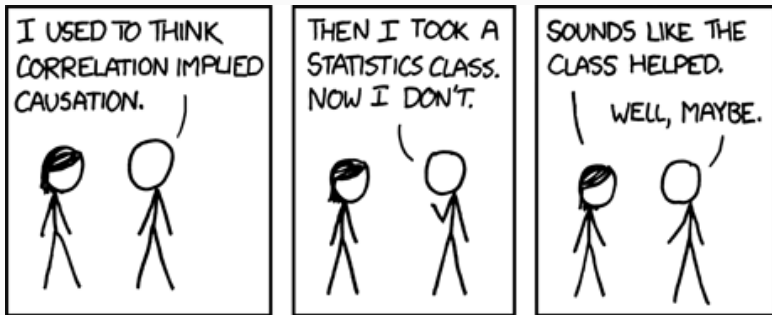


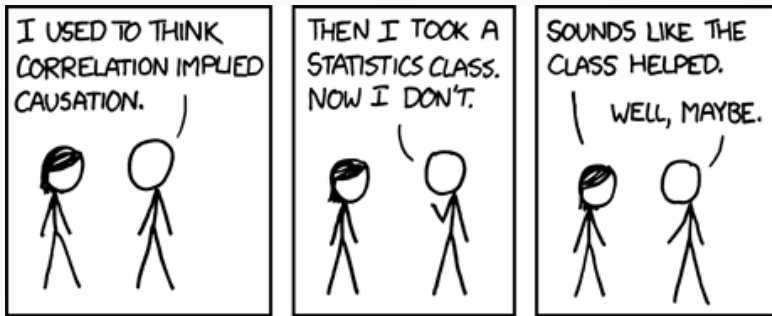
# Introduction

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<https://m.xkcd.com/552/>



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**Disclaimer:** This class draws heavily on material from Scott Cunningham's mixtape, Nick Huntington-Klein's classes, Angrist and Pischke "Mostly Harmless Econometrics" and "Mastering Metrics", Stock and Watson's "Introduction to Econometrics", and other places.

## Cause and effect

- We are interested in the relationship between “treatment” and some outcome
  - Treatment: Some drug; Outcome: health status
  - Treatment: Attending school; Outcome: wages
  - Treatment: Waking-up early; Outcome: learning
  - Treatment: Drinking alcohol; Outcome: child development
  - Treatment: Legalizing weed; Outcome: violence

## How? Using Data

- More than understanding *statistics and probability*, we need to understand **data**: **what it means**, and **how to use it**
- Google, Facebook, Rappi, Amazon, and many others, have lots of data on you (and everybody)
- Ability to understand data is becoming **VERY** valuable

## This course

- Learning how to use the statistical programming language R
- Learning how to understand the data we see in the world
- Learning how to figure out what data actually tells us
- Learning about **causal inference** — the economist's comparative advantage!

- 3 exams (25% each)
- 2-4 problem sets (25% total)
- Grade is max of  $\frac{PS+Exam1+Exam2+Exam3}{4}$  and  $\frac{Exam1+Exam2+Exam3}{3}$
- **There is no final exam**

## We'll be using R

- Install R <http://www.r-project.org>
- Install RStudio <http://www.rstudio.com>



Website has all sorts of useful resources: <https://tinyurl.com/4kuc24j4>

