

# Welcome to Mastering Metrics!

Econ 140, Section 1

---

Jonathan Old

# Roadmap

1. Getting Started & Housekeeping
2. Time for your questions
3. Econ 140: The Big Picture
4. Correlation and Causation

## Getting Started & Housekeeping

---

Introduce yourself ...

... and an interesting fact about you that you  
would like us to know!

# Housekeeping

---

- What you can expect in this section and from me as GSI:

# Housekeeping

---

- What you can expect in this section and from me as GSI:
  - Safe Space

# Housekeeping

---

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity

# Housekeeping

---

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity
  - Challenges in this course

# Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity
  - Challenges in this course
  - Mental Health

# Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity
  - Challenges in this course
  - Mental Health
- Core values: Transparency, Integrity, Respect

# Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity
  - Challenges in this course
  - Mental Health
- Core values: Transparency, Integrity, Respect
- I am your learning companion. I see grades as feedback, not as an evaluation of your abilities or personality.

# What your peers advise!

## What advice would you give to another student who is considering taking this course?

### Comments

Attend every section, they make the course more engaging and easier to comprehend

Review and asking a lot of questions, going to outside help (SLC)

Go to class and pay attention and you should be okay.

Be active in sessions. Cooperate with others.

## What advice would you give to another student who is considering taking this course?

### Comments

Just choose Jonathan's section!

Ask questions and try your best not to fall behind because it often compounds!

Stay on top of your work. This class is not one where you can skip lectures and cram material right before exams. Attend lectures and sections in person even if things aren't making sense.

Make sure you attend lectures, and definitely make sure you attend discussion sections – but also take advantage of the recordings to go over and cement the concepts and materials ahead of the exams.

Take it with JONATHAN

pick a good GSI!

You should have some programming skills, even if its the slightest knowledge of R or Python. It helps.

Pay attention in lecture/review the recordings if needed and go to section.

Please ask questions, no matter how simple the question may be.

Do the section handouts if you have time.

Attend sections, approach GSIs and Professors if needed. Do assignments on time and start reviewing early.

## What your peers advise (2)!

**What advice would you give to another student who is considering taking this course?**

Comments

Go to office hours and create study groups!

Take advantage of GSI resources!

Don't fall behind lecture content

**What advice would you give to another student who is considering taking this course?**

Comments

Go to section and read the textbook!

Go to section!

Take it with this GSI!

# What your peers critiqued!

Please identify area(s) where you think the course could be improved.

## Comments

Sometimes I felt like in discussion topics were simplified a little too much compared to how they were described in lecture. i felt like lectures would be more complex and harder to understand while discussion sometimes seems like I was learning common sense. Now, this could have been a result of my GSI's incredible teaching style (since he was amazing at explaining concepts clearly and answering questions) but I just wanted to be sure that we were not skimping over any of the topics in lecture in section.

No improvements necessary.

The tone could be a little bit faster maybe

n/a

Perhaps break down concepts even further, for easier understanding.

Please identify area(s) where you think the course could be improved.

## Comments

N/A

I think it could be beneficial to all students if section was made optional. When the students who don't have much interest in section show up, it brings down the morale and energy of the whole room. I felt bad because Jonathan would put in a good amount of energy into his sections and it often wasn't reciprocated

Recorded discussion sections.

Nothing, JONATHAN IS THE BEST

This class felt very conceptual, or at least lectures. I think having more examples of applying the concepts would have been useful. I know the worksheets were intended for that but I think the worksheets were sometimes very dense and I wouldn't be able to finish them.

Sometimes the material was a bit boring/dry.

Uploading slides ahead of time.

Perhaps more section assignment explanation time.

## What your peers critiqued (2)!

Please identify area(s) where you think the course could be improved.

Comments

N/A

Grammer was unclear sometimes.

Could be potentially more engaging, but good practice is most important and this is not a huge issue.

NA

Please identify area(s) where you think the course could be improved.

Comments

I really liked it when summery slides were made. Like before the midterm, keep up with more of that.

Hard to follow because the concepts are so hard

The main weakness is sometimes the material was taught different to how it was in lecture or we covered material in a different way than what the instructor would want from us from the midterm and final.

Release section assignments earlier.

## Your questions

---

Any questions?

... Remember – this is a safe space! Every question is useful!

## Econ 140: The Big Picture

---

# The Big Picture

---

- Why is applied econometrics so cool and so important?
- Why do we NOT use Excel? A cautionary tale
- Why econometrics and not data science?
  - Causality vs prediction
  - Economic models

## Correlation and Causation

---

# Dissecting Bad Causal Claims

Discuss in groups of 2: Why is this statement problematic?

**Over the past 60 years, more spending on police hasn't meant less crime**

The Washington Post

Intuitively, one might worry that reducing police spending would lead to a spike in crime. A review of spending on state and local police over the past 60 years, though, shows no correlation nationally between spending and crime rates.

In 1960, about \$2 billion was spent by state and local governments on police. There were about 1,887 crimes per 100,000 Americans, including 161 violent crimes. By 1980, spending had increased to \$14.6 billion — and crime rates had soared to 5,950 crimes per 100,000 Americans and 597 violent crimes. Over the next two decades, those rates thankfully fell, down to about 4,120 crimes per 100,000 people and 507 violent crimes. Spending spiked to more than \$67 billion. Eighteen years later — by 2018, the most recent year for which full data are available — crime rates had fallen further to 2,580 crimes per 100,000, including 381 violent crimes.

Figure 1: Police spending and Crime (Source)

## Dissecting Bad Causal Claims II

Discuss in groups of 2: Why is this statement problematic?

Three's a crowd: Having more than 2 kids linked to weaker brain function



NEW YORK – Everything in moderation – even kids? Researchers from Columbia University and Université Paris-Dauphine report having more than two kids may have a negative impact on late-life cognition. The study shows that older parents with just two children appeared sharper cognitively than those with three.

Figure 2: Number of Children and Cognitive Function(Source)

Discuss in groups of 2: Why is this statement problematic?

## Can hot baths protect your heart? - Harvard Health

### News briefs

Taking a warm bath helps soothe aching joints, wash away stress, and promote sleep. Now, a study published online March 24, 2020, by the journal *Heart* suggests that daily hot baths are also associated with better heart health. Researchers analyzed self-reported health and lifestyle information from more than 30,000 middle-aged people in Japan. Participants responded to a questionnaire at the start of the study and were then followed for about 20 years. Compared with people who didn't take a tub bath more than twice a week, people who took a daily warm or hot bath had a 28% lower risk of cardiovascular disease and a 26% lower risk of stroke. The study is only observational and doesn't prove that daily tub bathing staves off heart problems. But previous research has shown that the effects of tub bathing on the body are similar to those of exercise. Use caution, however: taking baths in very hot water is also tied to sudden death due to overheating, confusion, or drowning. If you're going to take a bath, keep the temperature comfortable and don't risk overheating. Finally, this study says nothing about the possible cardiovascular benefits of hot showers.

Figure 3: Hot baths and health (Source)

# Dissecting Bad Causal Claims IV

Discuss in groups of 2: Why is this statement problematic?

The New York Times

## ***Another Benefit to Going to Museums? You May Live Longer***

Researchers in Britain found that people who go to museums, the theater and the opera were less likely to die in the study period than those who didn't.

 Give this article  



Leonardo da Vinci's "The Virgin and Child" at the Louvre in Paris. A British study found that people who engaged with the arts had a lower likelihood of dying during the study period than those who did not. Thibault Camus/Associated Press

Figure 4: Museums and longevity (Source)

## Dissecting Bad Causal Claims IV

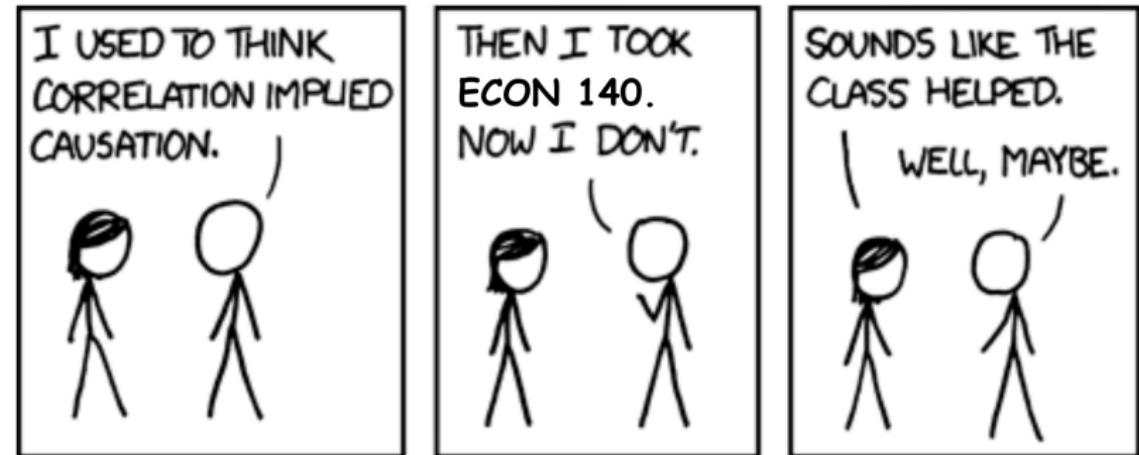


Figure 5: Correlation and causation

## Quiz Time!

We have seen that

“Correlation Does Not Imply Causation”

What about:

“No Correlation Implies No Causation”?