

MSCS MESS

Department of Mathematics, Statistics, and Computer Science
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Monday's Lecture

Title: Causal Inference
Speaker: Scott Cunningham
Date: **Monday, February 21**
Time: 4pm-5pm
Location: **Tomson Hall 280**

About the talk: Physical randomization can be used to identify the causal effect of programs and events, but physical randomization may not always be possible, ethical or practical. In absence of a controlled physical experiment, researchers are often searching for another way to achieve the same degree of confidence that some association is causal as afforded by the properties of physical randomization. Causal inference is a specialization within economics and statistics that grew out of the labor economics tradition to evaluate the causal effects of programs when physical randomization was not available, and was awarded the Nobel Prize in economics in 2021.

This workshop will cover foundational elements of modern practices of causal inference, such as the potential outcomes model, as well as discuss in detail the most common designs: regression discontinuity, instrumental variables, difference in differences, comparative case studies using synthetic control and, if time permits, matching. It will be accompanied by efforts to introduce students to basic practices in programming using R, Stata and Python, as well as good research practices more generally.

About the speaker: Scott Cunningham is a professor of economics at Baylor University. He is the author of *Causal Inference: The Mixtape* and co-editor of *The Handbook on the Economics of Prostitution* (with Manisha Shah). His research focus covers a range of applied topics in health and labor, including sex work, abortion, drug policy and mental healthcare. He has taught dozens of classes on causal inference, both in-person and online, to universities and firms across the world, including Facebook, HP, University of Oxford, London School of Economics, University of Pennsylvania, and more.

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