# Prep for class

1. Create space between stimulus and response
2. [Load Canvas in browser](https://uth.instructure.com/courses/51972)
3. [Load Socrative in Browser](https://b.socrative.com/login/teacher/)
4. Load PowerPoint

# 00:00 Get settled

1. Press the record button
2. Go over miscellaneous items

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# 00:20 Lab warm-up

1. [Navigate to Socrative](https://www.socrative.com/)
2. Publish lab warm-up on Canvas

# 01:15 Lab assignment

1. Placeholder

# 02:50 Adjourn

# Other Notes:

1. Data alone cannot tell us if confounding is present. If we determine that confounding is present, data can help us estimate the impact or direction of confounding. But, in general, what we are really interested in is the unconfounded causal relationship of exposure to disease.
2. Confounding is fundamentally a causal question. Meaning, it doesn’t really have a meaning outside of causal inference.
   1. Confounding is a verb, not a noun.
   2. We may call Jill a runner, but that doesn’t imply that she runs 24/7. It just implies that she runs in certain contexts that we deem relevant at the time we call her a runner. In a similar way, SES is not a “confounder.” However, SES may confound causal relationships in certain contexts that we deem relevant when discussing a given topic.
3. **Path**: Any arrow-based route between two variables on the graph. Some paths follow the direction of the arrows and some do not.
4. **Backdoor path**: A backdoor path between A and Y is a path that connects A and Y without using any of the arrows that leave from A.
5. **Backdoor path criterion**: We can identify the causal effect of A on Y if we have sufficient data to block all backdoor paths between A and Y.
6. **D-Separation rules**. Determine if a path is blocked:
7. If there are no variables being conditioned on, a path is blocked if an only if two arrowheads on the path collide at some variable on the path.
8. Any path that contains a non-collider that has been conditioned on is blocked.
9. A collider that has been conditioned on does not block a path.
10. A collider that has a descendant that has been conditioned on does not block a path.
11. Confounder: A variable that, possibly together with other variables, can be used to block all backdoor paths between treatment and outcome.
    1. According to this definition, it may or may not be a common cause of A and Y. Or even if it’s a common cause of A and Y it may cease to be a source of confounding after adjusting for other variables in the model.
    2. Confounding either exists or does not exist, but a given variable may or may not be a confounder depending on what other variables are being adjusted for.
    3. Once we’ve identified and eliminated confounding, labeling a variable as a confounder (which is context-specific anyway) is not all that relevant.
    4. The discussion about whether L is a confounder or not a confounder has no practical consequence. We have already decided that we need to adjust for L because L is the variable needed to eliminate the confounding. After making that decision, whether we label L as a confounder or not is irrelevant.
    5. confound*ing* is the primary concept, not confound*er*.
12. Confounding:
    1. Three equivalent ways of asking about confounding
       1. Is there confounding for the effect of A on Y?
       2. Are there any common causes of A on Y?
       3. Are there any open backdoor paths between A and Y?