

## *From Stock and Flow to State and System*

FIND YOUR NAME on the list of today's studio groups, find your partner(s), seat yourselves comfortably, and please read through the rest of this document.

### *Today's Agenda*

Today we'll work on going from a stock and flow diagram to an implementation. And from Chapter 14 we'll discuss nondimensionalization and analysis of the SIR model.

### *Implementation*

Write notes here related to the CO<sub>2</sub> model.

Write notes here related to the wolf and elk model.

Write notes here related to the HIV model.

### *Nondimensionalization*

In the context of the SIR model, what are the benefits of combining two parameters ( $\beta$  and  $\gamma$ ) into one (the contact number)? Are there any drawbacks?

### *Reflection Question*

Today in class you created `State` and `System` objects for the HIV model, and you might have started an update function. Which parts of that were easy, and which were hard? What questions do you have?

### *Next Steps*

Before class on Tuesday, please do the following things:

- ☐ Write your name here: \_\_\_\_\_
- ☐ Write your name(s) of your studio partner(s) here: \_\_\_\_\_
- ☐ By tonight: Scan this worksheet and submit it on Canvas.
- ☐ Also tonight: Read Chapter 15 and complete the reading quiz.  
Read and run the Chapter 15 notebook.
- ☐ Meet in the studios on Tuesday.