

COSC150: Explorations in System Modeling with InsightMaker: Laboratory 7 April 2020

By the end of the lab explorations today, or on your own time, you will have:

- a) This version is for you if you do not have a computer capable of running Vensim, so examples are learning about InsightMaker for chromebooks and tablets, or if you just want to see how to use InsightMaker on a mac or PC.
- b) Built (or re-built) a simple Disease Model (Susceptible → Infected) producing a graph (and a table)
- c) Modified your simple Disease Model to add social distancing
- d) Modified your simple Disease Model to add Recovered, or run pre-built model to explore fuller SIR (Susceptible → Infected → Recovered) model in epidemiology
- e) Run pre-built model to add more realism (Exposed) producing SEIR model.
- f) Run pre-built model to explore Dosing Model in pharmacology

1. Go to <http://www.insightmaker.com> and create yourself a free account.
2. Go to this model of Susceptible → Infected and “clone” it to make it your own. It has already been modified to include effect of social distancing:

<https://insightmaker.com/insight/191547/SI-model-with-Social-Distancing>

3. Go to the SIR model, go to this model and “clone” it to make it your own:
<https://insightmaker.com/insight/190750/SIR-TEST>
 - a. Develop some driving questions and
 - b. Use the model to investigate the answers
 - c. Record your observations
 - d. Reflect upon your observations
4. Go to the SEIR model and “clone” it to add exposure without symptoms (E):
<https://insightmaker.com/insight/191551/SEIR-Model>
 - a. Develop some driving questions and
 - b. Use the model to investigate the answers
 - c. What strategies could you use to minimize how the disease spreads?
 - d. Record your observations
 - e. Reflect upon your observations

5. Go to the dosing model, and “clone” it to make it your own:
<https://insightmaker.com/insight/191592/PharmaDosingModel>
 - a. Develop some driving questions and
 - b. Use the model to investigate the answers
 - c. Record your observations
 - d. Reflect upon your observations
 - e. How would you change the drug characteristics or dosage to achieve an effective treatment that only requires no more than 2 doses per day?