COSC150 ICA3 (4Nov2021)

Name/Pledged no help on first take_____

(Open Web/Notes allowed ONLY for rework)

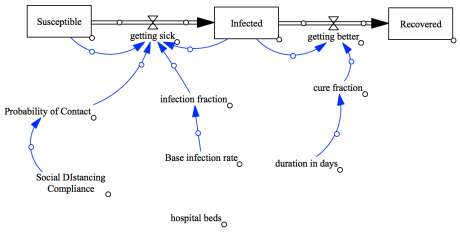
We started this course by asserting that scientists communicate in two basic ways: drawing pictures and telling stories. We've spent several weeks doing that!

Do your best to answer the following, then send me back (panoffrm@wofford.edu) a PDF of your answers. You must submit your first answers by 11:00 am.

1. A model that has at least one element of randomness can be described as _____.

2. A model whose behavior depends solely on its parameter values and the initial conditions can be described as _____.

3. Consider the following simple ***system model*** of the spread of a communicable disease:



a. Identify the 4 basic components (building blocks) of system models and give an example of each:

b. Convert the above drawing of a system model to a story, consistent with the model of the spread of a disease. Be as complete as you can using the vocabulary of system models. Include a sketch a typical graph of the three S-I-R components.:

4. Models in a scientific investigation usually serve one or more of four main purposes. They are:

   a. S_____

   b. E_____

   c. P_____

   d. V_____

   e. A_____

5. In an agent-based model, we always start with a well-told story using sentences that are of the form: If . . . . . Then . . . . .Else

   a. What are the 4 basic components of the stories of most agent-based models?

   b. Tell me a good agent-based model story of the spread of a communicable disease, including movement, catching the disease, and one or more ways to recover:

6. List as many of the characteristics of System Models and Agent Models that you remember that distinguish one from another:

SYSTEM MODELS	AGENT MODELS

7. In terms of a process for building and testing an agent model, what are the three stages of model development:

a. First you determine which agents _____

b. Then you define how those agents _____

c. Then you define how those agents _____

8. (non-graded) The course has only a few weeks left before you start your project!

a. What is something new you have learned so far in class or lab?

b. What is one topic that you would like to learn, or learn more of, before the course is over?