**Bio211 Biostatistics and Experimental Design Winter Term 2018**

**Lab 5 Microbiology Part I**

**January 24, 2018**

Goals: Design an experiment related to microbial growth from samples in our environment

Protocol:

This lab will be done in 5 groups. Your group is responsible for writing a hypothesis, designing an experiment to test your hypothesis, performing the experiment, and collecting the results to share with the class. Each group can use approximately 18 petri plates, it is up to you to decide the number of treatments and replicates in your experiment. For example, you can test 2 treatments of 9 replicates each or 3 treatments of 6 replicates each, etc.

The general protocol of the experiment will be to swab something in the environment and grow the sample on agar plates. Some examples of treatments are different locations around the building, length of time to swab, inanimate vs. animate objects, etc. Get creative!

After your group has finished exposing the plates, they will grow at 37C until there are between 20-40 colonies per plate, at which point they will be moved to the cold room until January 24, 2018.

**Each group must turn in answers one set of answers to the questions on the following page.**

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Group members:

Scientific question:

Hypothesis:

Null hypothesis:

Experimental design:

Treatment(s):

Replication:

Response variable(s):

Possible sources of error:

Statistical test to be used: