

Using Linear Regression to Explore Environmental Factors Affecting Vector-borne Diseases

ONLINE INSTRUCTOR GUIDE

This document adapts the instructor guide for the Linear Regression module to an online workflow in a fully online class. Online instructional modes vary, so this guide could be further adapted for hybrid or asynchronous courses.

Instructions for Opening Activity

1. Provide students with the Opening Activity document in the course management system (CMS) at least one week before the class. Before class, have students independently read the Background information (on the first page) and complete the Introduction Questions.
2. Before class, load the Student Guide to statistics and data sets into the CMS.
3. In synchronized zoom session (online lecture), begin by discussing the solutions to the Introduction Questions as a class. (5 minutes)
4. Provide students with the Student Guide for Statistics document. Complete the Graphing and Data analysis questions as a class using the Student Guide for Statistics. (20 minutes)
5. Divide students into 6 or more groups using breakout rooms, groups should be 2-5 students. Have students complete the Conclusion Questions in these small groups.
6. Discuss the solutions as a class. (5 minutes)

Instructions for Student Activity

1. Give each group (breakout room) one of the temperature/disease or rainfall/disease activities. These activities and data should already be available on the CMS, so simply assign one to each group.
2. Groups complete the activity on a shared document (e.g. google docs, padlet, or onedrive) using the Opening Activity and Student Guide for Statistics documents to guide them. (20 minutes). Shared documents allows the instructor to see students working while they are in breakout rooms.
3. If there is time, have each group share what they found in their small group (10 minutes)
4. Have a class discussion on the similarities and differences between the diseases. Identify which group had the strongest linear relationship. Discuss the conclusion questions from each of the activities. (10 minutes).