

## Exercise 7 – Count Data Due February 28, 2024

Three groups of students from universities u, z and g went to work in a pasture in the tropics. After one day of work (max. 10 hours), they counted the number of ticks in their bodies, and then corrected their counts by the number of hours each of them spent in the field.

Are there significant differences in the risk of attracting ticks among individuals from different universities?

1. Use the `Exercise7_data.txt` script provided in the class website to generate a sample `[ticks]` following the description above (you only need to run it once and then keep the data as a fixed input for your analyses).
2. State *your* scientific hypothesis.
3. Inspect and plot your data (publication quality).
4. Select and justify a statistical model to test your hypothesis using the data.
5. Verify the assumptions of the model you selected using plots.
6. Plot your predictive model along with its 95% CI (publication quality).
7. Compare your results to those of at least one other student in the class.
8. Interpret your results.

**NOTE 1:** The variable hours was centered by subtracting the values from their overall mean

**NOTE 2:** Please submit your answers as a single document (PDF preferred) by emailing Michelle ([Michelle.Bardales@ucf.edu](mailto:Michelle.Bardales@ucf.edu)). Remember to include the appropriate R file as well.

