

# BIOL 606: Statistical Knowledge Assessment

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## Instructions

This assessment helps me understand your statistical background. Please answer honestly—this is **not graded** and will help me tailor the course to your needs. Answer all questions to the best of your ability.

**Name:** \_\_\_\_\_

**Email:** \_\_\_\_\_

## Question 1

To the best of your ability, define the following terms:

- a) Standard Error:
- b) Variance:
- c) Variability:
- d) Covariance:
- e) Central Tendency

## Question 2

Provide an example of the following type of variables:

- a) Discrete:
- b) Continuous:
- c) Binary:
- d) Nominal:
- e) Ordinal:

## Question 3

How are parametric and non-parametric statistics different?

#### Question 4

What does ANOVA stand for and how is it different than a T-test?

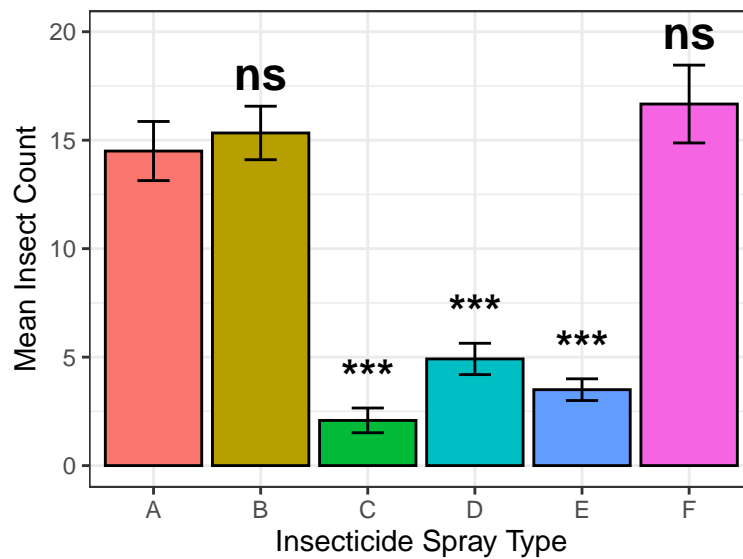
#### Question 5

Define the following terms:

- a) Ordination:
- b) Cluster Analysis:
- c) Psuedoreplication:
- d) Machine Learning:
- e) Heteroskedasticity:

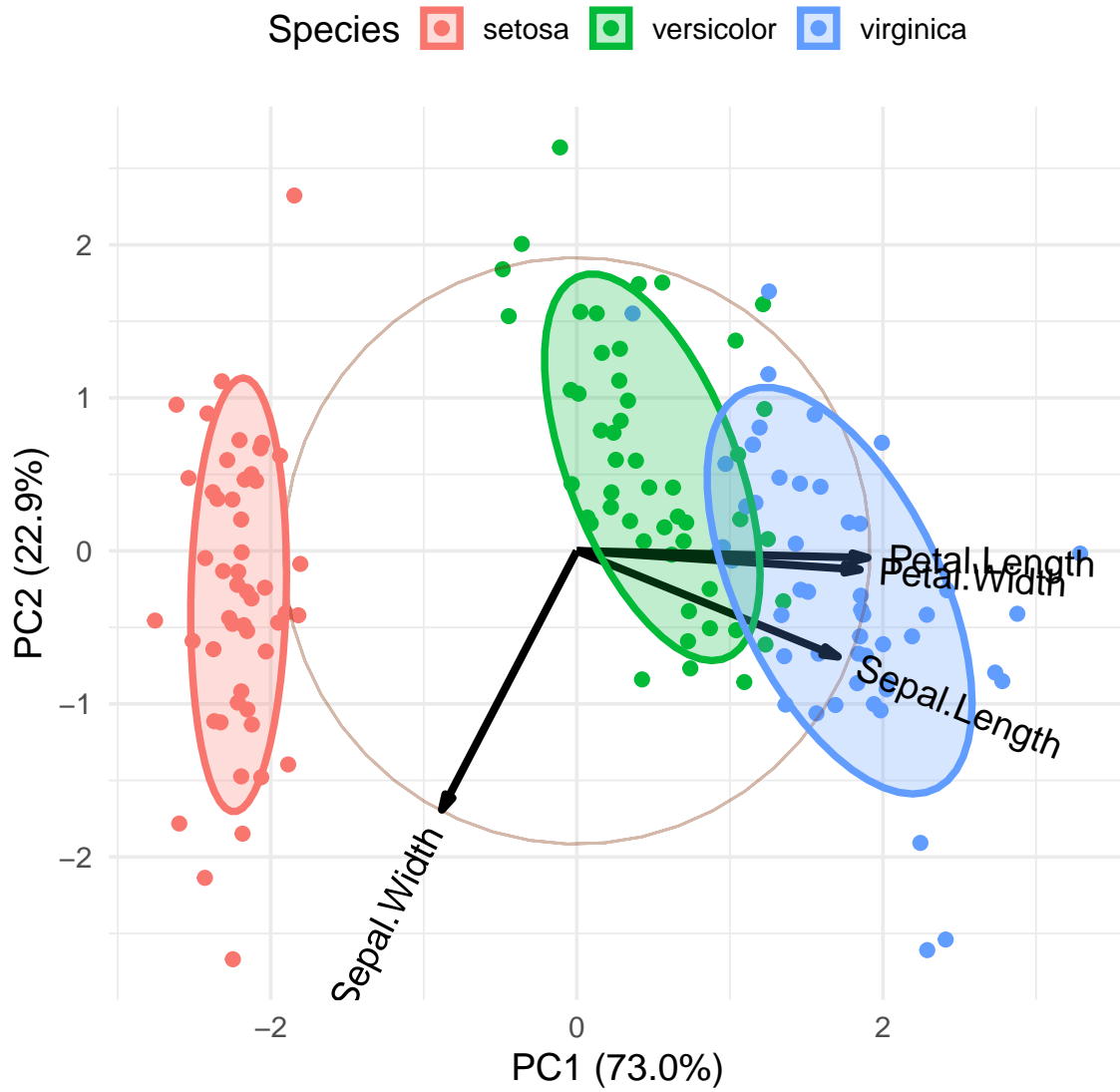
#### Question 6

Interpret the plot below in as much detail as possible:



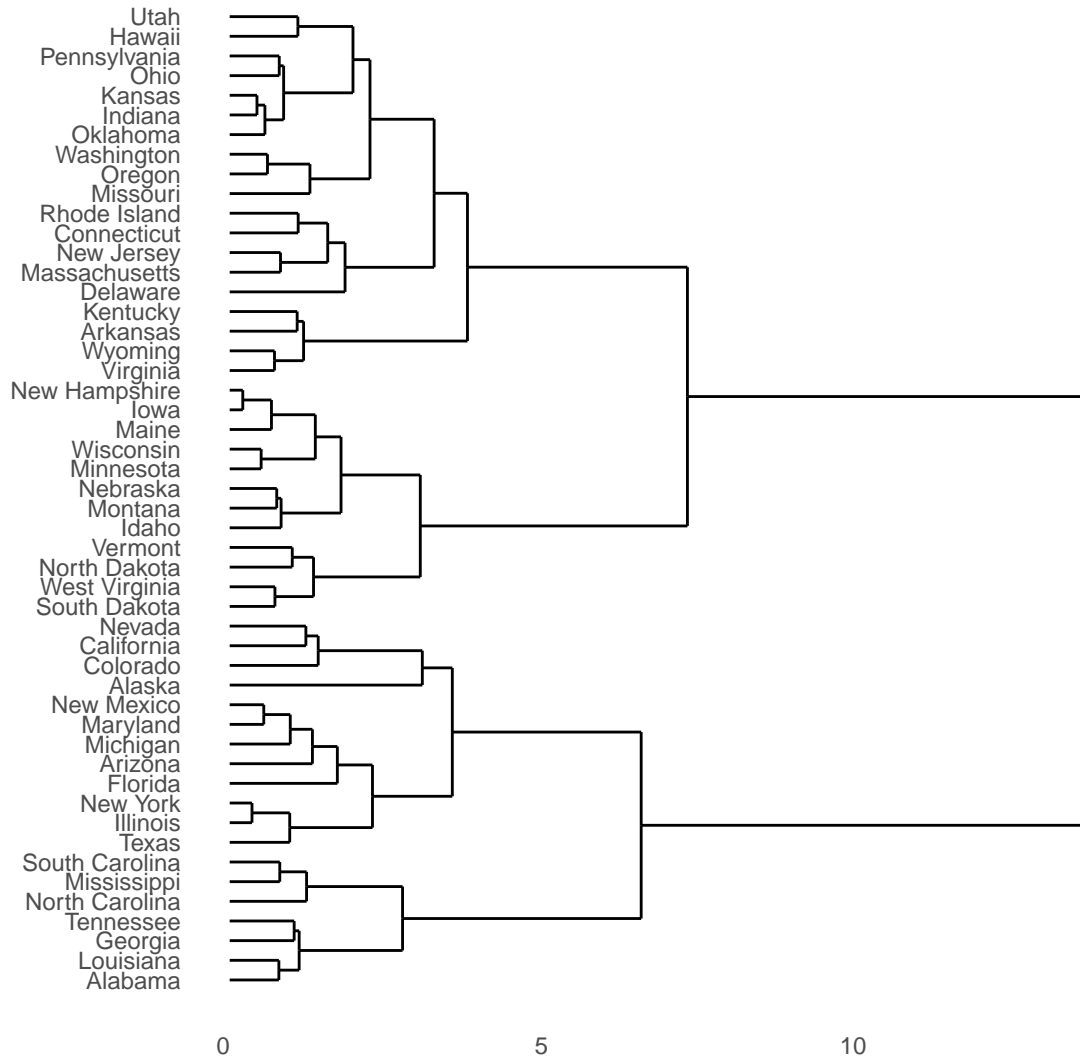
### Question 7

Interpret the plot below in as much detail as possible:



### Question 8

Interpret the plot below in as much detail as possible:



**Question 9**

What does statistical significance mean?

**Question 10**

Why did you take this class and what topics related to quantitative ecology are of most interest to you?

**Question 11**

List all of courses you have completed as either an undergraduate or graduate in the following areas (and please use descriptive titles rather than course numbers):

Ecology:

Statistics:

**Question 12**

What is your coding experience? (any language)