Zool 421 Lab Deliverable (20 pts) Name:

Introduction to R online module

1. Attach the final output graph from **Step 5** in the R Tutorial. Add figure caption and title.
2. Attach the final output graph from **Step 6** in the R Tutorial. Add figure caption and title.
3. Which of the following would be poor variable names and why?

data

min\_height

max.height

\_age

.mass

MaxLength

min-length

2widths

celsius2kelv

**For Questions 4-8 download the dataset from blackboard course site 🡪 lab modules 🡪 Intro to R 🡪 Data 🡪 Dataset for Deliverable**

4) Calculate the mean of species wingspan using a function. Provide code you used and output.

sparrow <- mean(22, 24, 21) #this is how you would calculate the mean for sparrows.

**Now you do the others!**

5) Now something really fun – make a barplot plot of your wingspans. You’ll first need to create a vector to combine all the wingspans for each species. Attach the barplot with figure caption.

*# Chain them together in a vector*

wingspan <- c(sparrow, kingfisher, eagle, hummingbird)

*# Create a bird species vector (careful to match the order of the previous vector!)*

bird\_sp <- c("sparrow", "kingfisher", "eagle", "hummingbird")

class(bird\_sp) *# currently character*

bird\_sp <- as.factor(bird\_sp) *# transforming into factor*

class(bird\_sp) *# now a factor!*

*# Then, combine the two vectors in a data frame*

wings <- data.frame(bird\_sp, wingspan)

*# Plot the bar plot & save it to file*

barplot(wings$wingspan, names.arg = wings$bird\_sp,

xlab = "Bird species",

ylab = "Average wingspan (cm)", *# adding axis titles*

ylim = c(0, 200), *# setting the limits of the y axis to fit the eagle*

col = "blue" *# changing the color because why not!*

)

6) Make a histogram – if I don’t tell you the function? How can you figure it out? Attach final output.

7) What does the default of the summary function give you?

8) Why would you want to check the structure of your data – what does it tell you that is important?