Geog 415.

Lab Assignment 2: R Markdown

Due Date: 9/23 8 AM

Learning Objectives

- Practice a little bit of tidyverse and ggplot

- Create your first R markdown document

- Learn how to import and map shapefiles in R.

Before attempting this assignment:

* Complete “Getting Started with R Studio”
* Read and knit “lab02\_rmarkdown\_tutorial.Rmd”

Turn your assignment in by uploading two files: (1) an .Rmd file and (2) as a knitted file in html, word or pdf format. The knitted file should include your code, the output, and your comments. It should do the following:

1. Load the ‘knox\_acs.shp’ shapefile into R and give it the name ‘knox’.

2. Add a new column to knox that calculates the fraction of each census tract that is between ages 18 and 21. Call that column “college\_frac”.

3. Create a choropleth map of the proportion of the population age 18-21. Make sure that the map is appropriately labeled.

4. Plot a histogram of the Median Household Income and label the axes appropriately. In words, describe the shape of this distribution.

5. Create a scatterplot with Household Income (in $1000s) on the x-axis and House Value (in $1000s) on the y-axis. Set the alpha level to the population of each tract. Describe in words the shape of this scatterplot.

6. Calculate the three correlation coefficients between Household Income, House Value, and percent 18-21. Use these correlation coefficients in a sentence without typing the numbers in directly. (i.e. your markdown file should generate the coefficient automatically for you).