

**DEPARTMENT OF POLITICAL SCIENCE
AND
INTERNATIONAL RELATIONS**
Posc/Uapp 816

Assignment 6
CORRELATION AND INFERENCE

Name_____

(Printed)

Student Number_____

(Social Security Number)

E-mail_____

For this assignment go to the class internet page, then to the data site, then find “Smoking and Cancer” data. (These are the data used in Class 11 to illustrate hypothesis testing and correlation.)

1. Attach a labeled plot of smoking and lung cancer.
 - A. What kind of relationship exists? (That is, what kind of correlation?)

2. Find the correlation matrix for cigarette consumption and lung and kidney cancer.

	Smoking	Lung	Kidney
Smoking			
Lung			
Kidney			

- A. What do these correlations tell you about smoking and health?

3. Now test the hypothesis that smoking (independent variable) and lung cancer are statistically (linearly) related. Use the .01 level.
- A. Degrees of freedom: _____
- B. Observed t: _____
- C. Observed F: _____
4. What are 99 percent confidence intervals for the lung cancer on smoking regression coefficient?
- A. Lower: _____
- B. Upper: _____
5. Now regress lung cancer on kidney cancer. (Treat lung cancer as the dependent variable.)
- A. What is the estimated regression coefficient? _____
- B. Is it statistically significant at the .05 level? Give statistics as well as explanation. (In other words, don't reply with a simple yes or no.)

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