## **First Writing Assignment**

Write a short paper (1-2 pages, double-spaced, typed) on the question assigned for your section. These are to be turned in by Noon on Friday, February 22. Papers should be submitted electronically to your TA in .doc, .docx, or .rtf format.

The goal of this paper is to explain clearly the central concepts employed in the question you are to address. Assume that your audience is a fellow student not in this class. To explain the material to that person you cannot just use the concepts we have developed in class such as *operational definition*; rather you must *explain* them. Present your answers totally in your own words—do not quote material either from the website, the lecture slides, or any other source.

A01. Imagine that you are part of a group of investigators considering whether there is a correlation between the release of carbon dioxide into the atmosphere by humans (whether by industry, car exhaust, etc.) and global changes in the climate of planet Earth. Propose operational definitions of these variables and explain the strengths and weaknesses of your proposal in terms of construct validity. Explain how you will test for a correlation using a sample, making it clear what constitutes the null hypothesis and the research hypothesis, as well as what are the possible Type I and II errors in this scenario. Which error are the investigators likely to be more wary of, and why? What are some things that your team can do to try to reduce the likelihood of committing a Type 1 error? A Type II error?

A02: Suppose you want to discover whether wealth is a predictor of moral rectitude (how morally upstanding someone is); that is, you want to know whether wealth and moral rectitude are correlated. In order to begin your research, you will have to come up with operational definitions for wealth and moral rectitude. Explain why that is necessary. Then give two operational definitions of each variable, stating a strength and weakness of each operational definition. Make sure to discuss the strength and weakness in terms of construct validity. Keep in mind that both moral rectitude and wealth are going to have to be score variables; you will need operational definitions that allow you to render them numerically. State which operational definitions you judge to be the best for each variable and, in terms of them, state both the null hypothesis and the research hypothesis that will be employed in your study.