ISS 305:002 Fall 2017
Study Guide for Exam 2

Below is a list of terms/concepts that you should be familiar with for Exam 2 on Tuesday - 10/17/2017. **This list is not exhaustive.** You should be familiar with your lecture notes and the assigned readings. Some tips: Study hard – go over the notes carefully (most of the questions will be drawn from lecture material) and be familiar with all readings. Study smart – know key concepts. Get a good night's sleep before the exam.

Intro to ISS 305

- Candide, Skeptic, skeptic

Science as a Method of Evaluation (21 Questions on the Exam)

- Alternative ways of testing empirical statements – 7 topics (common sense, etc.)
- Empiricism: Uncertainty (Why?)
    - 1.0 probability and 0.0? Guaranteed results and Dr. Death
- What is considered empirical evidence?
- Publicness of Science
    - Science only trusts (or, disregards) what kinds of observations?
    - Symptoms of pseudo-science (in notes and readings)
    - Operational Definition
    - Peer Review – the good and bad
    - Science and skepticism
- Controlled/Systematic Observations
    - Anecdotal evidence / Self-Fulfilling Prophecy / Chance and Coincidence / Observer effect
- What Science is not
- Must science always reveal the truth?

Problems of Measurement (21 Questions on the Exam)

- Variable, Construct/Concept, Operational variable
- Desirable qualities: Observations → Numbers
- Levels/Scales of Measurement (NOIR)
- Random Error (or noise) – How can you minimize random error? What are the sources?
- Reliability – high, low, none
- Systematic Error (or bias) – What are the sources?
- Solutions to the social desirability bias?
- Validity – high, low, none
- Ways of establishing reliability? Best to worst ways of assessing reliability?
- Ways of assessing validity? Best and worst ways of assessing validity?
- Relationship between validity and reliability

Problems of Description (8 Questions on the Exam)

- Central Tendency (Averages) – Mean, Median, Mode
    - Properties of each and when are they good or bad to use.
- Variability – Range, Variance, Standard Deviation