3600 Morrissey Hall Access Code: 1553

Course philosophy

* The result of using the scientific method is NOT absolute truth.
* More interested in your position and opinion rather than just the correct answer.
* Quality of work is more important that arbitrary due dates.
* Course synthesizes statistics and demography.

Trends

* A lot of traditional social science assumes that space doesn’t matter.
* Spatial demography is becoming computational.

Spatial demography

* Creating maps is a prerequisite for developing the spatial model.

Statistics concepts

* Goal is to create dependent variables that are interval or ratio whenever possible.
  + Allows use of the most sophisticated spatial statistics (i.e., high statistical power).
* Distributions
  + Methods are based on normal distribution
  + Real world data is rarely normally distributed
  + Income distribution is an example of positively skewed data (right skewness)
  + High school education is an example of negatively skewed data (left skewness)
* Ideal situation
  + Normal distribution
  + Small standard deviation
  + 68-95-99 rule
* Errors
  + Type I error is error of commission
  + Type II error is error of omission
  + Type II error is preferred to Type I error
  + Type I errors lead to retractions of journal articles
  + U.S. legal system
    - H0: person is NOT guilty (not the same as innocent)
      * Evidence is insufficient to reject the null hypothesis
    - HA: person is guilty
* Generally, cannot achieve a BLUE model.

Demography concepts

* The scientific study of human populations
* Elements of demography
  + Mathematical knowledge of populations
  + General movement of populations
  + The physical, civil, intellectual, and moral state of populations