**Mid-Term Exam Study Guide**

Geog 303 Field Study in Environmental Geography

Spring 2014

Things you should know or be able to do/answer for the exam:

* **Habitat Modeling**
  + Explain how a USGS topography map is useful for determining habitat space
  + Be able to rank landscape features given a set of criteria
* **Topography Maps**
  + Differentiate between large and small scale maps
  + Differentiate between map projections, and compare and contrast their properties
  + Identify the contour interval and map scale on a USGS topo map
  + Convert distance on the map (e.g., 1 cm) into real-world distances (e.g., 1 km)
    - Know the process for doing this
    - Know basic standard and metric conversions
  + Identify the compass declination on a topo map and be able to convert between magnetic and true azimuths
  + Calculate percent slope and differentiate among different aspects
* **Scientific Writing**
  + Define the IMReD system of scientific writing
  + Given different attributes of a study (e.g., collection protocol, data sets, research question), identify the section of a paper where it should be presented and explained
  + Visualize and replicate a good structure of a scientific paper
* **GPS & UTM Coordinate System**
  + Describe in general terms how a GPS is able to locate itself on the planet
    - What information does it receive from satellites?
    - How many satellites are required for successfully locating a position?
  + Describe in general terms the history of GPS use
    - What changed in May of 2000?
  + Identify and describe the sources of potential error when using a GPS.
  + Describe the benefits of applying a GPS in a research project.
  + Identify the UTM zone grid and UTM position of a point on a map or from a GPS readout
  + Describe why the UTM system is easy to use and understand
* **Forest Inventory**
  + Define a “sample” in terms of forest inventory.
  + Explain the rationale for sampling a forest.
  + List important metrics of a forest plot – i.e., what should you measure?
  + Compute the height and basal area of a tree
  + Define and measure live crown ratio.
  + Calculate basal area per hectare and trees per hectare from plot data
* **Environmental Impact Assessments**
  + Provide the motivation(s) for conducting an EIA
  + What attributes of a construction site must you pay attention to when conducting an EIA?
  + Explain the purpose and process of creating a Leopold matrix.
    - Differentiate, define, and apply “Magnitude” and “Importance” when assessing potential environmental impacts
  + What are some mitigation techniques that can be applied to construction projects?
* **Qualitative Methods**
  + Differentiate between qualitative and quantitative data and research methods.
  + Describe a research objective for which qualitative methods could be used.
  + Compare & Contrast in-depth interviews, focus groups, and surveys in terms of the kinds of information each would attain for the researcher
  + Describe the general process of undertaking a qualitative research project.