Review sheet for final exam

The final exam will take place in the USU Testing Center. It is available on Monday, December 12 and Tuesday, December 13. Please schedule your exam online at http://testing.usu.edu

The exam will cover materials from the lectures and assigned readings and will consist of multiple choice and short answer questions. The following topics are likely to be included on the exam, but the list is not all-inclusive so please thoroughly review your lecture notes and assigned readings. The final is comprehensive, meaning that it will cover topics from the first and second halves of the semester.

**Topics from first half of the semester**
(see mid-term review sheet)

**Network analysis**
- Nodes and edges
- Directed vs. undirected networks
- Shortest path analysis
- Geocoding

**Raster and terrain analysis**
- Slope
- Aspect
- Slope and aspect units
- How slope is calculated in a raster
- How aspect is calculated in a raster
- DEM
- Hill shading
- Control points
- Triangulated Irregular Networks (TINs)
- Spatial interpolation
- Nearest-neighbor interpolation
- Thiessen polygons
- Inverse distance weighting

**Spatial statistics**
- Euclidean distance
- Manhattan distance
- Mode, median, mean
- Standard deviation
- Statistical distributions
- Centroid/mean center
- Standard distance
- How to calculate the mean center
- Types of spatial patterns: random, clustered, dispersed
- Average nearest neighbor analysis
- Quadrat counts

**Spatial autocorrelation**
- Tobler’s First Law of Geography
- Moran’s I test

**Cartography**
- Visual hierarchy
- Visual cues that create visual hierarchy
- Visual variables
- Figure-ground
- Color perception
- Colorblind-safe color schemes

**Ethics**
- Ethical implications of geospatial technology
- GIS code of ethics