

## **Maa-6.453 GIS Analysis**

1. Mitä merkitystä sijaintitietojen topologialla on paikkatietoanalyysissä? (01/01)
2. Spatiaalilastomenetelmien käyttö paikkatietoanalyysissä? (01/01)
3. Kuljetusten optimointi rasterirakenteilla. Periaate ja esimerkkejä. (01/01)
4. Millaisia valmisohjelmistoja on tarjolla GIS-analyysien tekoon? Milloin valmisohjelmia ei voida käyttää? (01/01)
5. Please describe and explain three of the following concepts and how they apply to GI Analysis  
Principal Component Analysis (PCA), Geocomputation, Neural Networks, Kriging, Graph & Network Analyses, Spatial Autocorrelation, Voronoi Diagrams (10/07)
6. Please explain the concept of “kernel density analysis” and give an example of how to use this concept. (10/07)
7. You have the following scenario: the city of Helsinki wants to evaluate their current housing market. You are given the task to make a general preliminary analysis on the current situation. At this point the only dataset available are: current housing center points, the population register (including information on number of inhabitants, income, age), Helsinki Points of Interest (PoI) data (including shops, schools, public-transportation stops), Helsinki road + rail network, Helsinki land-use (including green areas, industrial areas), Helsinki water areas (including lakes, ocean). – Please explain how you approach the task from an advanced GIS analysis point of view. Outline the possible analysis methods that you would prefer to use. (10/07)