INFSCI 2809: Spatial Data Analytics
Midterm Exam
Available on courseweb: March 7, 2019 (after 12:00 pm)
Due: March 8, 2017 (by 12:00 pm)

There are two parts in this exam and you need two files: "PALocs.shp" in "PALocs.zip" and "PACoals.shp" in "PACoals.zip", to complete them. You need to download the zip files from "http://gis40.exp.sis.pitt.edu/INFSCI2809_data".

PART A

Perform a Quadrat Count method by taking the random quadrat sample approach for each file. For each file create a table (as shown below) with these attributes: "No. of Events (K)"; "Number of Quadrats (X)"; "$K-\mu$"; "$(K-\mu)^2$"; "$X(K-\mu)^2$". Calculate the variance-mean ratio (VMR) and determine whether the data set is clustered, evenly scattered, or randomly scattered.

No. of Events (K)	Number of Quadrats (X)	$K-\mu$	$(K-\mu)^2$	$X(K-\mu)^2$

Prepare:
A map showing the Quadrat Count method for each file. [10 points]
A table for each file with the above statistics. [10 points]
A summary report on the decision based on the VMR value in each file. [10 points]

PART B

Perform the G function and the F function on both files.

Prepare:
A plot showing the result of G function. [10 points]
A plot showing the result of F function. [10 points]
A report comparing the results of G and F functions. [10 points]

Total points: 60

Submit your complete exam results (PDF) on courseweb.