

# **GEOG 432/832: Programming, Scripting, and Automation for GIS**

## **Unit 13.02: Wrap up**

**Dr. Bitterman**

# Today's schedule

- Open discussion
- Slides, discussion
- For next class
- Open work time

# Open discussion

# Reflection activity (3-5 min)

1. **WRITE DOWN** 2-3 things you can *now* do that you couldn't when the semester started
2. On the first day, you were asked what "success would look like" at the end of the semester. Were you successful?

## Pair-and-share (find a buddy)

### Share:

- your new skills
- your favorite thing about the course (e.g., new skills, activities, Dr. Bitterman's dry wit and towering intellect, etc...)
- your measure of success *and* how well you did

# Report out

# From the syllabus (and labs)

- Basic Python commands/functions
- Geoprocessing
  - Overlay analysis
  - Proximity analysis
  - Cursors
- Queries
  - Tabular
  - Spatial
- How geometries work, creation, analysis
- Raster manipulation
- Raster math

## Part 2:

- Open source Python spatial data analysis and frameworks
- What's a data frame, what's a geodataframe
- ESDA
- How to make a map programmatically
- Multilayer mapping
- Spatial weights matrices, formalization of space,  $W$
- Spatial autocorrelation, global, local, LISAs
- Aspatial clustering (kmeans)

**And whatever you're doing for your projects...**

(so, a LOT!)



# Learning objectives (from the syllabus)

By the end of the term, students will be able to successfully:

- Perform object-oriented programming tasks in Python
- Analyze model workflows and describe computer code and algorithms in plain language
- Create small-scale programs that interface with ArcGIS
- Practice good programming practices
- Demonstrate a familiarity with different programming languages commonly used in GIS automation and geospatial analysis (Python)
- Plan, develop, and execute a programmatic analysis of a dataset

## For next class

- No class meeting on Friday (work on your own, but let me know if questions and I can be present)
- Lab 8 due Thursday
- Completed project signup sheet on Canvas (discussion board)
  - PRACTICE, PRACTICE, PRACTICE
  - You're expected to listen attentively AND ask questions
- Do your evaluations (please)

# Work time