

## 11.205 – Intro to Spatial Analysis – Fall 2019

### Exercise 1 – The Basics: Creating Maps and Working with Data

Due: Before midnight, Thursday of week 2

---

In lab this week, you learned some of the basic skills of making a simple map in ArcGIS. This included:

1. How to understand the ArcGIS/QGIS interface and the relationship between map documents and data files;
2. How to add data to a map;
3. How to view information (metadata) about files in ArcCatalog;
4. How to change the symbology and how to classify a map;
5. How to compose the layout of a map;
6. How to create a layout that includes the seven basic map elements (informative title, legend, north arrow, scale bar, author, date, and data source);
7. How to add and remove data frames from a map document; and
8. How to export a map document to a .pdf or image format.

In class, we created a map of Boston and the immediate surrounding communities that showed bike commuters in a block group using data using the information provided by the U.S. Census. Our client, the Bronx River Alliance, would like a similar map for the Bronx in order to get more detailed demographic information. In Exercise 1, to help them, you will create a map layout that uses demographic data (provided to you in `\week1\data\bronx`) to tell a story about the Bronx. We would like a map on **one** of the following subjects; Percentage of Renters, Percentage of Unemployed, Percentage of Public Transit to Work, – just one map on one of those three topic areas – you decide what interests you. We are looking for the ability to create a map that is well designed and includes the basic map elements.

Remember to use the **11.205/11.520 Cartographic Checklist** so you include the seven elements on the map. Pay particular attention to the following elements when working on Exercise 1.

1. Is your map well designed? Does it highlight the necessary features to support your story and message?
2. Does your map layout help the reader focus on the Bronx?
3. Did you use colors and symbols that are easy to distinguish and accurately and honestly visualize the data?
4. Have you considered whether your data should be a count, a percentage, or a ratio?
5. Do the breaks in your legend (classification scheme) make sense?
6. Do you need to normalize your data by area or population?

#### **Deliverable –**

Please export your map as a PDF and post it to the course website. Name your submission 'exercise1\_<yourname>\_11205.pdf'. Points will be taken off if you do not follow this naming convention. (Note: The naming convention helps staff allocate assignments for grading)

#### **Grading**

Your grade for this exercise will be out of 12 points, based on (1) inclusion of the seven basic map elements; (2) overall composition and completeness of your map; and (3) whether you represented the data in a way consistent with the concepts discussed in lecture and the week's readings. (Hint: Keep it simple and focus on clear and straightforward presentation.)

MIT OpenCourseWare  
<https://ocw.mit.edu/>

11.205 Introduction to Spatial Analysis  
Fall 2019

For information about citing these materials or our Terms of Use, visit: <https://ocw.mit.edu/terms>.