

Tools for Data Analysis

Semester Project [30 points TOTAL]

The semester project is intended to allow you to practice putting all of the concepts from class to use in a data project of your own choosing. You will be expected to collect data, clean that data in preparation for analysis, then implement your chosen form of analysis in order to address your proposed research goal. You may choose any research question that interests you, so long as you can obtain data to address that question from data.europa.eu:

- <https://data.europa.eu/en>

You are welcome to work in groups of 3 or 4. No group may have more than four members. If I believe that group members do not put equal effort into the project, I reserve the right to grade each member of the group separately.

What should We Choose for a Project?

- Pick a question that **you and your group** find interesting.
- It should involve some form of analysis in addition to visualization. (Regression, clustering, prediction, etc.)
- You should be able to describe a policy implication of your research. (Can be business, public, or personal policy)

Steps to Project Completion:

1. Project Proposal (5 points)

- What data will you use? [1 point]
 - What question will you attempt to answer? [2 points]
 - What kind of analysis will you use to answer your question? [1 point]
 - How will you use the information you collect to answer that question [1 point]
2. The Project (25 points)
- Conduct your proposed research based on your proposal using the tools covered in this class. Your code should do the following:
 - Import and clean the data in preparation for addressing your research question [5 points]
 - Analyze the data with respect to your research question [5 points]
 - Create two or more visuals based on the data that address your research question [5 points]
 - Write a short summary of your findings (about 3 pages) [5 points]
 - Discuss the policy implications of your findings in a short presentation to the class [5 points]

What to Turn In:

1. Project proposal (in Word or PDF format, submitted through MyCourses) – turned in during the proposal phase (including names of group members)
2. Code for project implementation (submit through MyCourses)

3. Project write-up (in Word or PDF format, submitted through MyCourses)
4. Slides (if any) from presentation (submitted through MyCourses)