# Assignment 2: Basic Techniques (10 Points)

**General instructions.**

1. Restate your chosen SDG in your submission and complete all tasks by visualizing phenomena that speak to your chosen SDG.
2. You can reuse the dataset from the previous assignment or use one or more other datasets, provided that they are all connected to your SDG and contain the information needed to perform the assignment tasks.
3. Always specify which datasets you used for which tasks and provide links to the sources of all datasets.
4. Always specify which visualization tools (e.g., programming languages and libraries) you used for which tasks.
5. You are allowed to use generative AI *to support your learning*. If you opt to use generative AI, you *must* state which model(s) you used for which tasks, describe how and why you used them, and provide a critical reflection on how they supported you in understanding the course material and carrying out your assignment tasks. Undisclosed usage of generative AI, if discovered, will be considered cheating.

If you have questions or feedback on the assignments, please share these in the course forum.
See also our MyCourses page for further general instructions.

**Assignment-specific instructions.** To complete each of the following tasks, please

1. create (at least) one visualization,
2. describe and interpret the visualization with a view to understanding the progress toward your SDG,
3. motivate your visualization-design choices and describe the thinking that went into your design, and
4. report any challenges you may have encountered and how you overcame them.

Your answers to 2.–4. should be at least one paragraph of text each. The target length of your text (excluding graphics) is between two-thirds of a page and one page, but you can remain below that if your answers are concise or go over that if you have more to share (no need to optimize the layout to make your answers look longer or shorter).

## Task 1: Visualizing Distributions (3 Points)

Identify one variable that is critical for assessing progress toward your chosen SDG, and whose distribution you suspect to vary across different subgroups of a relevant population (e.g., across countries, species, sexes, …). Use the techniques you learned in the course to analyze the distribution(s) of your selected variable.

## Task 2: Visualizing Time Series (3 Points)

Identify one variable that is critical for assessing progress toward your chosen SDG, and for which you can find temporal data. Use the techniques you learned in the course to analyze how the level and distribution of your selected variable have changed over time.

## Task 3: Visualizing High-Dimensional Data (4 Points)

Identify four variables that you suspect need to be considered together to assess progress toward your chosen SDG. Use the techniques you learned in the course to analyze the pairwise relationships between these variables.