**Figure building requirement**

**General**

* When building a figure, imagine it as a story that you read in a logical order with no external text needed, the legend is there to explain the context of the analysis and main conclusion (methods, goals, outcomes, ..)
* The combination of all the figures + legends alone should tell the publication/presentation/report story with no additional text needed to get the main conclusions
* When starting to write a publication/presentation/report building the figures is the first step
* Always consider that the graph is clear also in black and white printing

**Graphs building**

* Minor and major ticks to the inside
* Colors should be adapted to color blind people (the newest versions of the plotting softwares have dedicated color scale)
* Axis scale: max 4 values, adapt the minor ticks in accordance
* Axis title and units: avoid dots as multiplier = g L-1 and not g.L-1 g/L
* Graph legend outside of the plot, with outline, no shadow
* To minimize the legend at its maximum, find a relevant and accurate axis legend
* Scatter/line graphs: Empty dots, large enough to be distinguished when printed
* Scatter/line graphs: Dashed lines if not continuous measurements
* Scatter/line graphs: Different dots shapes
* Line graphs: Full lines if continuous measurements, no dots
* Minimize the different scales per plot
* If evaluating data for eg. a batch process, combine on/offline measurements together that make sense like pH/acid production, O2/growth/glucose uptake etc.
* Stacked graphs: Ticks on the top, inside, with scale, no title
* Stacked graphs: Avoid overlapping axis values
* Multi-graph figures: group the graphs in a logical order, for example: in a 3x3 graph figures, 1st raw is for operational parameters, 2nd for on-line measurements, 3rd raw for off-line measurements