

CHECKLIST FOR PRODUCING LAB REPORTS THAT ARE 'A' MATERIAL

Please scrutinize your lab report and check it against all items below before handing in your lab report.

- ☐ Each of my measurement results is given with an appropriate uncertainty (error)
- ☐ Uncertainties (errors) on all averages $\langle x \rangle$ are calculated using the std. dev. of the mean (SDOM):

$$\sigma_{\langle x \rangle} = \frac{\sigma_x}{\sqrt{N}} = \frac{\text{std. dev. of distribution}}{\sqrt{N}} = \frac{\text{rms of distr.}}{\sqrt{N}} = \sqrt{\frac{\sum_{i=1}^N (x_i - \langle x \rangle)^2}{N-1}}$$

- ☐ Uncertainties on quantities that are not directly measured, but that can be derived from measured values, are properly propagated using standard error propagation.
- ☐ I am scrupulously distinguishing between the experimental uncertainty (error) on a quantity and its deviation (or discrepancy) from an accepted (theory) value. I have evaluated all discrepancies in terms of the corresponding error of the measurement (“1 σ deviation”, “2 σ deviation”,...) and commented on this.
- ☐ Throughout the entire report I am only listing significant figures; i.e. in the text as well as in all tables and Excel spreadsheets, even if they are in the appendix. All uncertainties are given with one or maximally two significant figures.
- ☐ All quantities are given with proper units everywhere in the text and in all tables and all figures.
- ☐ All tables and graphs are centered within the page and numbered. The main text of the report refers to the correct tables and figures using these numbers.
- ☐ The numbered figures and tables are all captioned.
- ☐ All equations are properly formatted in display mode such as the equation above (rather than inline) and centered on the page.
- ☐ The main body of the text is “justified” using WORD’s “Justify” function; i.e. the lines of a paragraph are filled evenly and are flush with the right and left margin
- ☐ All the x- and y-axes are labeled on all plots (even in the appendix). The proper units are shown for the plotted quantities on all axes.
- ☐ I am showing proper error bars for all plotted quantities in my graphs.
- ☐ The range of the plotted quantity is suitable. I didn’t leave too much open space in a plot where there are no data points.
- ☐ The plots are displayed at an appropriate size, i.e. about half a page per plot.
- ☐ I didn’t start a section (e.g. “Data”) with a table or plot, but rather always start a section with text. I have placed tables and figures preferably either at the top or bottom of a page.
- ☐ I didn’t leave the heading of a new section or just one or two lines of a new section hanging by itself at the bottom of a page. Instead, I started a new page.
- ☐ I have provided proper **references** at the end of the report for any material (graphs, photos, ...) that I didn’t produce myself, but took from outside sources.
- ☐ I have **proofread my report before turning it in**. I understand that an automatic spellcheck is a necessary, but not sufficient operation for proofreading

Signature

Date