

PLANNING REPORTS GUIDELINES

Requirements

- *Your written Planning Report must be submitted electronically as a doc (not docx) file to the designated TA 4 days in advance of your experiment. This means by 5PM on the Friday of weeks 1, 4 and 7 for Tuesday sections (AA and AB), by 5PM on the Saturday of weeks 1, 4 and 7 for the Wednesday section (AC), and by 5PM of the Sunday of weeks 1, 4 and 7 for the Thursday section (AD).*
- The designated TA will grade the planning report, offering suggestions and corrections through the track changes function of Word. The team can ask questions by E-mail to resolve any remaining uncertainties (make sure that you first think before sending those and use E-mails sparingly). If the TA determines that the group is not ready to start the experiment a meeting will be scheduled one day before the first lab period.

Organization

- Title Page. Include the lab section, name of the experiment, and name of team members. Identify the Planning Report Task Leader.
- Introduction. Summarize the relevant theory. Include key equations and cite their source, but omit details such as derivations. Equations should be separate from the text and numbered. Include the purpose and scope. Objectives must be specific. The assignment memos are purposefully vague, so you must define more specific objectives. Otherwise, you will not have a clear purpose for your experiments and analysis. Summarize results/data available in the literature. (If you believe that no relevant data exist, say so and describe your search.)
- Materials and Methods. Describe available equipment and how you will use it to achieve your objectives. Include a schematic showing all key devices, controls, and instrumentation. Explain what data you will collect. Be as specific as possible. For example, give ranges over which variables will be adjusted, number of measurements at each condition, etc.
- Discussion. Explain how the data will be analyzed. You must include sample calculations in an appendix. Given the literature and other information at your disposal, what are your expectations (trends, likely errors, etc.)? Comment on alternative approaches you considered, if any. Given the time available, will you be able to collect enough data to draw convincing conclusions?
- Note safety issues for this experiment (omit "obvious" issues such as sharp objects, electrical power, etc., unless you believe there is a specific safety issue). Briefly note possible hazards of chemicals used.
- References. This section compiles the literature cited (refer to the Written Report Guidelines document for reference formatting).
- Appendices. Include sample calculations that show how you will analyze the data. Use an equation editor software. Include all required unit conversions. Do your best to use realistic numerical values (a reasonable guess is OK).

Grading

- Planning reports are graded on 100 points; 60% of the grade goes to the Task Leader and 20% of the grade to each other team member to incentivize teamwork. You will be allowed to use appropriate parts of your Planning Report in the writing of the Final Report. Thus, the better the Planning Report, the easier the preparation of the Final Report will be. A sample grade sheet is available in the Course Overview packet and on the course website.

- Grading criteria are as follow:
 - Proposes experiments that satisfy the assignment
 - Experiments will provide the desired results
 - Results will answer the assignment's questions convincingly
 - Alternative approaches are planned as appropriate (in case first approach fails).
 - Includes sufficient detail for a person "skilled in the art" to perform the proposed experiments.
 - Relevant equipment dimensions, key devices, controls, instrumentation, connectivity, limiting operating conditions, etc.
 - Proposed operating conditions
 - Measurements: which, when and how.
 - Describes expected results
 - Shows examples of figures, tables, and equations expected to appear in final report.
 - Explains how experimental data might compare to predictions from theory or correlations.
 - Suggests safe procedures and includes specific methods to maintain safe operation
 - Sample calculations
 - State with equations and brief text, how you will use the experimental data to obtain the experiment objectives.
 - Communication
 - Persuasive, concise, well-organized, with related ideas grouped in sub-sections and presented in a logical order
 - The required report sections are included. Items within these sections are presented in logical order.
 - Body has adequate detail with supplementary information provided either as a literature citation or as an appendix.
 - Brief, but sufficiently detailed for the audience.
 - Edited for unnecessary words.
 - Convinces the reader that the proposed experiments are efficient and will satisfy the objectives.
 - Figures, tables, and supporting information formatted to have maximum impact
 - Easy to understand and technically accurate.
 - Descriptive axes names, data labels, figure titles, table headings, etc.
 - Appropriate units, clearly indicated.
 - Correct grammar and style
 - Sentence structure.
 - Spelling.
 - Clarity.
 - Professional tone.