

Mechanical Engineering - Engineering Laboratory Reports

This report format emphasizes laboratory methodology and the computation, presentation, and discussion of laboratory results. In some cases, the laboratory results may be used for solving a specific engineering problem posed by the instructor. The following format should be followed, use of headings is generally required.

Letter of Transmittal*, one page maximum

- Objective (purpose), procedures, results and conclusions
- Proper letter format (addressed, courteous closing, signed, etc.)

Title Page, Table of Contents*, Lists of Figures and Tables*

- All properly done with complete information

Executive Summary* half page maximum, (objective, procedures, results, conclusions)

Introduction (objective and summary)

Background

Laboratory Methodology (Equipment and Materials, Procedure)

Results and Discussion

- Interpret the results for the reader (meaning and application)
- Compare results to expectations (experimental, theoretical)
- Explain cause and magnitude of error

Tables and Figures (tables and figures should be embedded in appropriate sections such as background and discussion).

- All figures and tables discussed in text, but self explanatory
- Numbered and properly titled, contain units, axis labels
- Referenced (if information not created by author)
- Appropriate to communicate effectively

Conclusions and Recommendations

- Conclusions (was objective met? Briefly explain.)
- Brief explanation of significant “errors”
- Recommendations for future laboratories or future action

References

- Appropriate quantity and quality
- Proper citation within text and proper reference section format

Appendix I- Data

Appendix II- Calculations

Additional appendices as required

Writing Quality

- Format: proper use of headings, page numbers, etc.
- Writing: clear, complete, and concise with proper mechanics (spelling, punctuation, grammar, and paragraph and sentence structures)
- Proper tense, third person, passive voice, formal writing

*Short or informal reports omit letter of transmittal, table of contents, executive summary, and lists of tables and figures. Refer to the UP School of Engineering's *Writing for Engineers* handbook for assistance.