

OREGON INSTITUTE OF TECHNOLOGY  
Mechanical and Manufacturing Engineering and Technology

Memo Lab Report Guidelines

The MMET Department has prepared a document describing the writing format to be used for preparing formal laboratory reports ("Writing Guide for Formal Technical Reports"). One exception to that document occurs when the instructor specifically states that a "memorandumtype" report is to be prepared on the results of a particular experiment.

The memo-type report differs from a formal report primarily in its brevity. This brevity results from the change in reading audience. The memo-type report, as defined herein, should be written for your instructor (rather than for someone up the supervisory line). The significance of this is that your instructor is completely familiar with the purpose of the experiment, with the experiment setup, and with the analytical and experimental procedures used. Thus, you need not devote much space to those topics. **The emphasis in a memo-type report is on the results, discussion, and conclusions derived from the experiment.** Even under those topics, the presentation can be less stylized than in a formal report. Nevertheless, you must adequately demonstrate in the report that you understand the significance of the experiment and of the results obtained.

You may find it beneficial to subdivide the body of the report into sections and maybe subsections (as defined for a formal report), but that depends in part on the length and complexity of the material to be presented. In all other aspects of report preparation, follow the instructions you have in the report writing checklist defined for formal reports.

However, your instructor will be looking for the following sections in lab reports. Thus you should have the following report sections unless specifically directed otherwise. The numbers in parentheses are the relative importance of each.

**TITLE PAGE (2)**

As described in our "Writing Guide for Formal Technical Reports".

**ABSTRACT (8)**

A very brief (34 sentences) describing what is found in the report. This should include all material in the report, why it was done, what was done, and what the results were. Its intent is to let the reader know quickly whether the report is of interest to them.

**INTRODUCTION (4)**

A very brief introduction to the Report. A description, in your view, of why the experiment was undertaken.

**ANALYSIS (20)**

This is a presentation of the physical principals and equations to be used in your calculations. They are "presented" as equations in a text, with writing explaining what the equations are rather than just a series of equations. Include an idea of how the equations will be used for this Lab, but this section includes only the mathematics and science to be used later in the Results section.

**EXPERIMENTAL APPARATUS & PROCEDURE (8)**

This is a short section. You need to be specific enough so the instructor knows you understand the equipment and how to use it. Also, the specific equipment you use should be indicated so we can track down any that are malfunctioning. The OIT number, if present, should do this.

## RESULTS (30)

This section presents the results of the experiment and is the core of the report. A description of the data taken is given along with any data reduction/calculations done on the data. The Writing Guide indicates sample calculations and data reduction procedures belong in an Appendix. However, for our reports some description of these (particularly data reduction) should be included in the body of the report. Results are probably best presented in graphic or tabular form.

This is a presentation of the data, do not include any discussion. i.e. It may be obvious that a straight line fits the data well but don't state this in the Results section. It should be stated in the Discussion section.

## DISCUSSION (20)

This section discusses the results and what they mean. Points made in this section must be supported by the data and the information presented in the Results section. i.e. We might conclude here that, based on our data, strain gage measurements can be quite linear. Or possibly pressure gage X is not within the manufacturers specifications.

## REFERENCES (4)

This is a short section. Most information should be available from our text and this book needs to be listed if used. Also any other material (i.e. Strain Gage Handbook) used needs to be referenced here. Follow the format given in the Writing Guide. If a reference can be referenced rather than included as an appendix to do, looking towards sustainability we want to avoid wasted paper.

## RAW DATA (4)

At least one appendix will be included for raw data. The instructor may need your original data to track down any questions which arise in analysis or data reduction. You need to include your original data sheet (or a copy of the groups data sheet). You may also include a rewritten form that is more readable.

For some labs, mainly those involving data acquisition, the data collected and used may be massive. If the printout of data is large, say more than 4 pages, don't include it. However, the data used must be available to the instructor. You may state this in the "Raw Data" section and have the data available if requested.

Please include all the sections above. If the instructor follows the weights above for scoring then a missing section is zero. A sad development.

Memo reports will vary in a few details from the Writing Guide. Please note the following changes.

- The title page will follow the format presented in the Writing Guide but will also include the partners who worked together during the experiment. This will follow the author and indicate "Lab Partners:" followed by the names of those involved.
- The writing guide indicates a separate section for graphs and tables. We will include critical graphs and tables within the body of the report rather than a separate section. A graph or table should occur in the report as soon as feasible after it is referenced. Additional or supplementary graphs and tables may appear in an appendix, however those critical to the report should be in the body.
- Please use double line spacing. This makes it easier to insert notes and comments.

- No binder should be used. Our reports will be short enough that a staple in the upper left hand corner will be adequate, and preferred.

Finally proof read your reports.