



# Writing Reports

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# Aims and Objectives

- Provide a general introduction to writing reports.
- Outline the typical structure of a report,
- Provide a step by step guide to producing reports that are clear and well structured.



# What is Report

- A report is written for a clear purpose and to a particular audience.
- Specific information and evidence are presented, analysed and applied to a particular problem or issue.
- The information is presented in a clearly structured format making use of sections and headings so that the information is easy to locate and follow.





# What is Report

- When you are asked to write a report you will usually be given a report brief which provides you with instructions and guidelines.
- The report brief may outline the purpose, audience and problem or issue that your report must address, together with any specific requirements for format or structure.
- This guide offers a general introduction to report writing; be sure also to take account of specific instructions provided by your boss.



# What makes a good report?

- Reasons why reports are used as forms of written assessment:
  - Find out what you have learned from your reading, research or experience;
  - Give you experience of an important skill that is widely used in the work place.



# What makes a good report?

- understand the purpose of the report brief and adhere to its specifications;
- gather, evaluate and analyse relevant information;
- structure material in a logical and coherent order;
- present your report in a consistent manner according to the instructions of the report brief;
- make appropriate conclusions that are supported by the evidence and analysis of the report;
- make thoughtful and practical recommendations where required.





# The report structure

The main features of a report (provide a general guide).

These should be used in conjunction with the instructions or guidelines provided by your department/faculty or boss.

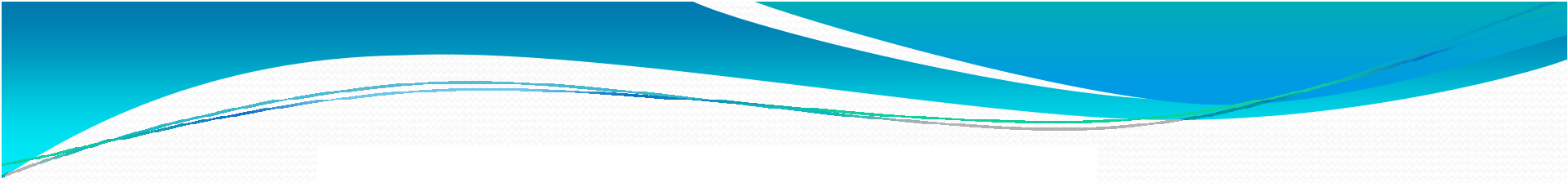
- Title Page
- Terms of reference
- Summary (Abstract)
- Contents (Table of Contents)
- Introduction
- Methods
- Results
- Discussion
- Conclusion
- Appendices
- Bibliography
- Acknowledgements
- Glossary of Technical Terms



# Title page

- explicitly describe the purpose of the report (if this is not obvious from the title of the work).
- Other details you may include could be your name, the date and for whom the report is written.
- Example:





## Tensile Testing Laboratory

By

Stephan Favilla  
0723668  
ME 354 AC

Date of Lab Report Submission: February 11<sup>th</sup> 2010

Date of Lab Exercise: January 28<sup>th</sup> 2010



# Terms of Reference

- Could include a brief explanation of who will read the report (audience) why it was written (purpose) and how it was written (methods). It may be in the form of a subtitle or a single paragraph.
- Example:

*A report submitted in fulfillment of the requirements for Course AGE1150, Faculty of Applied Engineering, King Saud University At Muzahimiyah.*



# Summary (Abstract)

- The summary should briefly describe the content of the report.
- It should cover the aims of the report, what was found and what, if any, action is called for.
- Aim for about 1/2 a page in length and avoid detail or discussion; just outline the main points.
- Remember that the summary is the first thing that is read.
- It should provide the reader with a clear, helpful overview of the content of the report.
- Sometimes it is called EXECUTIVE SUMMARY.





# Summary (Abstract)

- Example:
- Tensile tests are fundamental for understanding properties of different materials, and how they will behave under load. This lab tested four different materials, including A-36 hot rolled steel, 6061-T6 Aluminum, polycarbonate, and polymethylmethacrylate (PMMA). Each material was tested three times using an Instron load frame and the BlueHill data acquisition software. The data from each test was used to determine valuable material properties such as ultimate tensile strength, modulus of elasticity, and yield strength. Other calculated properties included true fracture strength, percent reduction of area, and percent elongation. These material properties were used for comparing the materials to each other, and to define the material as brittle or ductile.
- The true stress and true strain were calculated for one sample of 6061-T6 aluminum to show the difference between the engineering stress and strain, and the true values. The engineering stress is an assumption that uses the initial area of the cross section, ignoring the effects of transverse strain and the changing cross section. This assumption results in the drop of the engineering stress-strain curve after the ultimate tensile strength, where necking occurs.
- Using the values of the true strain, the true plastic strain was determined for one sample of Aluminum (Sample #2) by subtracting the contribution of the true elastic strain, as outlined in Appendix E. Plotting the logarithm of the true stress versus the logarithm of the true plastic strain allowed the plastic portion of the true stress-strain curve to be modeled by the Ramberg-Osgood model, as detailed in Appendix F. While the model did poorly at low plastic strains near yielding, it did an excellent job just before necking and the ultimate tensile strain.
- The results of the tensile tests showed that the A-36 hot rolled steel was the strongest material. It had the highest ultimate tensile strength (527.9 MPa), the greatest modulus of toughness (174.6 MPa), and the largest true fracture strength (1047 MPa). The 6061-T6 aluminum had a higher yield (356.3 MPa) than the steel (355.6), but a lower ultimate tensile strength (374.9 MPa) and true fracture strength (571.8 MPa) due to tempering and precipitation hardening. All of the materials besides the PMMA proved to be ductile, especially the polycarbonate, which had a percent elongation of 82.2%. The PMMA samples averaged a percent elongation of only 0.7333%.



# Contents (Table of Contents)

- The contents page should list the different chapters and/or headings together with the page numbers.
- Your contents page should be presented in such a way that the reader can quickly scan the list of headings and locate a particular part of the report.
- You may want to number chapter headings and subheadings in addition to providing page references.
- Whatever numbering system you use, be sure that it is clear and consistent throughout.





# Introduction

- The introduction sets the scene for the main body of the report.
- The aims and objectives of the report should be explained in detail.
- Any problems or limitations in the scope of the report should be identified, and a description of research methods, the parameters of the research and any necessary background history should be included.
- In some reports, particularly in science subjects, separate headings for Methods and Results are used prior to the main body (Discussion) of the report as described below.





# Methods

- Information under this heading may include:
  1. a list of equipment used;
  2. explanations of procedures followed;
  3. relevant information on materials used, including sources of materials and details of any necessary preparation;
  4. reference to any problems encountered and
  5. subsequent changes in procedure.



# Results

- This section should include a summary of the results of the investigation or experiment together with any necessary diagrams, graphs or tables of gathered data that support your results.
- Present your results in a logical order without comment.
- Discussion of your results should take place in the main body (Discussion) of the report.



# Discussion

- The main body of the report is where you discuss your material.
- The facts and evidence you have gathered should be analysed and discussed with specific reference to the problem or issue.
- If your discussion section is lengthy you might divide it into section headings.
- Your points should be grouped and arranged in an order that is logical and easy to follow.
- Use headings and subheadings to create a clear structure for your material.
- Use bullet points to present a series of points in an easy-to-follow list.
- As with the whole report, all sources used should be acknowledged and correctly referenced.





# Conclusion

- In the conclusion you should show the overall significance of what has been covered.
- You may want to remind the reader of the most important points that have been made in the report or highlight what you consider to be the most central issues or findings.
- However, no new material should be introduced in the conclusion.



# Appendices

- Under this heading you should include all the supporting information you have used that is not published. This might include tables, graphs, questionnaires, surveys or transcripts. Refer to the appendices in the body of your report.

- Example:

In order to assess the popularity of this change, a questionnaire (Appendix 2) was distributed to 60 employees. The results (Appendix 3) suggest the change is well received by the majority of employees.





# Bibliography

- Your bibliography should list, in alphabetical order by author, all published sources referred to in your report.
- There are different styles of using references and bibliographies. Harvard Style is popular in this field.
- Check guidelines set by your lecture/ departmental handbook.
- Texts which you consulted but did not refer to directly could be grouped under a separate heading such as 'Background Reading' and listed in alphabetical order using the same format as in your bibliography.





# Acknowledgements

- Where appropriate you may wish to acknowledge the assistance of particular organisations or individuals who provided information, advice or help.



# Glossary of Technical Terms

- It is useful to provide an alphabetical list of technical terms with a brief, clear description of each term.
- You can also include in this section explanations of the acronyms, abbreviations or standard units used in your report.
- You will not necessarily be required to use all of the headings described above, nor will they necessarily be in the order given here. Check your lecturer / departmental guidelines or instructions.

# Essential stages in developing reports

- All reports need to be clear, concise and well structured.
- The key to writing an effective report is to allocate time for planning and preparation.
- With careful planning, the writing of a report will be made much easier.
- The essential stages of successful report writing are described below.
- Consider how long each stage is likely to take and divide the time before the deadline between the different stages.
- Be sure to leave time for final proof reading and checking.



# Stage One: Understanding the report brief

- This first stage is the most important.
- You need to be confident that you understand the purpose of your report as described in your report brief or instructions.
- Consider who the report is for and why it is being written.
- Check that you understand all the instructions or requirements, and ask your tutor if anything is unclear.

# Stage Two: Gathering and selecting information

- Once you are clear about the purpose of your report, you need to begin to gather relevant information.
- Your information may come from a variety of sources, but how much information you will need will depend on how much detail is required in the report.
- You may want to begin by reading relevant literature to widen your understanding of the topic or issue before you go on to look at other forms of information such as questionnaires, surveys etc.
- As you read and gather information you need to assess its relevance to your report and select accordingly. Keep referring to your report brief to help you decide what is relevant information.



# Stage Three: Organising your material

- Once you have gathered information you need to decide what will be included and in what sequence it should be presented.
- Begin by grouping together points that are related.
- These may form sections or chapters.
- Remember to keep referring to the report brief and be prepared to cut any information that is not directly relevant to the report.
- Choose an order for your material that is logical and easy to follow.





## Stage Four: Analysing your material

- Before you begin to write your first draft of the report, take time to consider and make notes on the points you will make using the facts and evidence you have gathered.
- What conclusions can be drawn from the material?
- What are the limitations or flaws in the evidence?
- Do certain pieces of evidence conflict with one another? It is not enough to simply present the information you have gathered; you must relate it to the problem or issue described in the report brief.



# Stage Five: Writing the report

- Having organised your material into appropriate sections and headings you can begin to write the first draft of your report.
- You may find it easier to write the summary and contents page at the end when you know exactly what will be included.
- Aim for a writing style that is direct and precise. Avoid waffle and make your points clearly and concisely.
- Chapters, sections and even individual paragraphs should be written with a clear structure.
- The structure described below can be adapted and applied to chapters, sections and even paragraphs.





# Stage Five: Writing the report

- The structure described below can be adapted and applied to chapters, sections and even paragraphs:
  - Introduce the main idea of the chapter/section/paragraph
  - Explain and expand the idea, defining any key terms.
  - Present relevant evidence to support your point(s).
  - Comment on each piece of evidence showing how it relates to your point(s).
  - Conclude your chapter/section/paragraph by either showing its significance to the report as a whole or making a link to the next chapter/section/paragraph.





# Stage Six: Reviewing and redrafting

- You should leave time to take a break before you review your first draft.
- Be prepared to rearrange or rewrite sections in the light of your review.
- Try to read the draft from the perspective of the reader. Is it easy to follow with a clear structure that makes sense?
- Are the points concisely but clearly explained and supported by relevant evidence?
- Writing on a word processor makes it easier to rewrite and rearrange sections or paragraphs in your first draft.
- If you write your first draft by hand, try writing each section on a separate piece of paper to make redrafting easier.



# Stage Seven: Presentation

- Once you are satisfied with the content and structure of your redrafted report, you can turn your attention to the presentation.
- Check that the wording of each chapter / section / subheading is clear and accurate.
- Check that you have adhered to the instructions in your report brief regarding format and presentation.
- Check for consistency in numbering of chapters, sections and appendices.
- Make sure that all your sources are acknowledged and correctly referenced.
- You will need to proof read your report for errors of spelling or grammar.
- If time allows, proof read more than once. Errors in presentation or expression create a poor impression and can make the report difficult to read.





# Feedback

- Any feedback from lecturers on returned work can be used to create a checklist of key points to consider for your next report.
- Identify priority areas for attention and seek out further information and advice.
- Speak to your tutor or an adviser.
- Used in this way, feedback from tutors can provide a useful tool for developing and improving your writing skills.