

# ILSB Guideline for Authors Writing Reports and Theses

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# General Guidelines on Scientific Writing

**ILSB students who write reports may be asked by the lecturer to comply with these guidelines**

e.g. seminar and project work protocols, bachelor/master theses, ...

Scientific Writing follows some common rules which may deviate from field to field.

This document adopts a typical style as being used in Mechanics. It is based on the guidelines for authors for the Journal *Composites Science and Technology*

[http://www.elsevier.com/wps/find/journaldescription.cws\\_home/405929/authorinstructions](http://www.elsevier.com/wps/find/journaldescription.cws_home/405929/authorinstructions) with some modifications for writing academic reports.

# Article Structure

Follow this order when writing manuscripts

- ▶ Title page
- ▶ Abstract
- ▶ Table of Contents (for long reports and theses)
- ▶ Main text
- ▶ Appendix (if applicable)
- ▶ References

# Layout

- ▶ Text layout
  - ▶ use 1.5 line spacing and 12 pt font size and standard fonts.
- ▶ Subdivision - numbered sections
  - ▶ divide your article into clearly defined and numbered sections
  - ▶ the abstract is not included in section numbering
  - ▶ use this numbering also for internal cross-referencing

some notes on the individual parts follow ...

# Title Page

- ▶ Course Number (LVA-Nr) / Course Title (LVA-Title)
- ▶ Title of Work (avoid abbreviations where possible)
- ▶ Author Name and Matriculation Number
- ▶ Date
  
- ▶ for Master theses, the regulations of the TU Wien apply

# Abstract

- ▶ a concise and factual abstract is required.
- ▶ the abstract should state briefly
  - ▶ the purpose of the research
  - ▶ the principal results and
  - ▶ major conclusions
- ▶ an abstract is often presented separately from the article
  - ▶ so it must be able to stand alone
    - ▶ references should be avoided, but if essential, then cite the author(s) and year(s).
    - ▶ non-standard or uncommon abbreviations should be avoided, but if essential they must be defined

# Introduction and Methods

## **Introduction**

- ▶ state the objectives of the work
- ▶ provide an adequate background
- ▶ a basic literature survey can be given
- ▶ avoid a summary of the results

## **Material and Methods**

- ▶ provide sufficient detail to allow the work to be reproduced
- ▶ methods already published should be indicated by a reference

# Results, Discussion, and Conclusions

## Results

- ▶ should be clear and concise

## Discussion

- ▶ explore the significance of the results of the work
  - ▶ do not repeat them
- ▶ a combined Results and Discussion section is often appropriate

## Conclusions or Summary

- ▶ give a short Summary section  
or
- ▶ main conclusions of the study may be presented in short
  - ▶ which may stand alone
  - ▶ or form a subsection of a Discussion/Results section

# Appendices

- ▶ if there is more than one **appendix** they should be identified as A, B, etc.
- ▶ formulae and equations should be given separate numbering
  - ▶ Eq. (A.1), Eq. (A.2), etc.
  - ▶ in a subsequent appendix Eq. (B.1) ...
  - ▶ similarly for tables and figures: Table A.1; Fig. A.1, ...

# Some style issues

## Abbreviations

- ▶ ensure consistency of abbreviations throughout the article
- ▶ uncommon abbreviations should be 'introduced'
  - ▶ when they appear for the first time (except in the abstract)
  - ▶ by writing the full phrase followed by the abbreviation in parenthesis

## Units

- ▶ follow internationally accepted rules and conventions
  - ▶ use the international system of units (SI)

## Math formulae

- ▶ in principle, variables are to be presented in italics
- ▶ number consecutively any equations that are displayed separately from the text
- ▶ variables should be named when appearing the first time

## Footnotes

- ▶ footnotes should be used sparingly
- ▶ number them consecutively throughout the article
  - ▶ using superscript Arabic numbers

# Figures

**Number the figures** according to their sequence as being first mentioned in the text.

- ▶ in the same sequence they must appear in the report/thesis
- ▶ each figure must be mentioned in the text

## **Color figures**

- ▶ Because of the appearance of color figures by printing to gray scale, the use of black and white versions may be considered.

## **Figure captions**

- ▶ ensure that each illustration has a caption below the figure
- ▶ a caption should comprise
  - ▶ a brief title (not on the figure itself)
  - ▶ a description of the illustration
- ▶ keep text in the illustrations themselves to a minimum
- ▶ explain all symbols and abbreviations (in the caption)

# Tables

- ▶ ensure that each **table** has a caption on top of the table
- ▶ ... otherwise the same rules apply as for figure captions
- ▶ number tables consecutively in accordance with their appearance in the text
- ▶ place footnotes to tables below the table body
- ▶ each table must be mentioned in the text

# References

## Citation in text

- ▶ ensure that every reference cited in the text is also present in the reference list (and vice versa)
- ▶ any references cited in the abstract must be given in full

## Web references

- ▶ the full URL should be given and the date when the reference was last accessed
  - ▶ any further information, if known should also be given
    - ▶ DOI, author names, dates, reference to a source publication, etc.

# Reference Style

- ▶ All publications cited in the text should be presented in a **list of references** following the text of the manuscript.
- ▶ In the text refer to references by a number in square brackets on the line (e.g. can be found in [2]).
- ▶ The full reference should be given in a numerical list at the end of the paper.
- ▶ For theses the list of references should be ordered alphabetically by the first author's surname.
- ▶ For reports the list of references should be ordered according to their first appearance in the text.

## List of References

Here are examples of different types of publications and the required informations to identify it.

Reference to a journal publication (authors, paper-title, journal, volume, page numbers, year)

- [1 ] Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., The art of writing a scientific article. J. Sci. Commun. 163, 51–59, 2010.

Reference to a book (authors, book-title, publisher, town (country), year)

- [2 ] Strunk Jr., W., White, E.B., The Elements of Style, fourth ed. Longman, New York, 2000.

Reference to a chapter in an edited book (authors, chapter-title, editors, book-title, publisher, town (country), page numbers, year)

- [3 ] Mettam, G.R., Adams, L.B., How to prepare an electronic version of your article, in: Jones, B.S., Smith, R.Z. (Eds.), Introduction to the Electronic Age. E-Publishing Inc., New York, pp. 281–304, 2009.

# Submission of Reports

Depending on the course, reports can be submitted or handed in by one of the two ways

- ▶ printed hardcopy
- ▶ PDF file via email
  - ▶ which will be printed **gray scale** (not in color!)

Make sure that

- ▶ everything is readable
- ▶ line styles can be distinguished
  - ▶ also when printed gray scale!
- ▶ the guidelines have been followed

# Before Writing

- ▶ make a **concept** before writing
  - ▶ define a structure of sections, sub-sections, ...
  - ▶ what material will be presented where
  - ▶ decide about figures to include
  - ▶ detail the sequence of issues to deal with
- ▶ check the concept
  - ▶ does it follow a logic structure?
  - ▶ is everything which is needed in a certain sub-section explained/introduced before?
- ▶ modify, rearrange, detail
- ▶ check again - until satisfied
- ▶ **now** start writing ...

## Some Recommendations

- ▶ avoid referring to things before they are introduced
- ▶ do not explain more than one issue at the same time
- ▶ equations - Even if printed in a separate line, they should be included in the sentence with proper grammar.
- ▶ figures which look nice on the screen, typically,
  - ▶ are not suited for reports
    - ▶ neither for class room presentations
  - ▶ font too small
  - ▶ lines too thin

Final note

**The best work is useless if not documented properly!**