

Page Layout for a PhD Thesis

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Abstract

The `AlbThesisLayout` package provides a single `alb-thesis` \LaTeX document class. The class implements a book design for scholarly work in mathematical and computer science. It sets up the page layout and section formatting. It does not provide additional \LaTeX commands or environments. However, it automatically provides support for a glossary and an index.

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This work has the LPPL maintenance status ‘author-maintained’.

This work consists of the files

`alb-thesis.cls`, `alb-thesis-glossary.ist`,
`alb-thesis-index.ist`, and
`alb-thesis-layout-documentation.tex`.

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1 Introduction

The `AlbThesisLayout` package implements a book design suitable for a thesis or other large scholarly document. It consists of a single document class `alb-thesis`. Although, it does not provide general purpose commands or environments, it provides commands to assist in the preparation of a glossary or notation index, and a general index.

The page layout provides an allocation for margin notes on the outer edge. Several elements exploit this space. Chapter headings are right aligned against the outer edge, so that they access this space. Large floats access the space via the `albInflate` environment of the `AlbFloatTools` package. The page numbers of referenced propositions are displayed in the space, if the reference is one of the prefixed reference commands such as `\albDRef` from the `AlbTheorems` package.

Page numbers are placed in the running headers with the chapter and section information. In twoside mode, the left header contains the page number, chapter title, and chapter number, while the right header contains the section number, section title, and page number. In each case, the space for margin notes accommodates the page number.

2 Suggested Document Structure

The following guidelines reflect the design goals of the `alb-thesis` document class. They are presented in terms of page layout options, and indexing commands. Although, all large documents should exploit the `\include` command, this aspect of document structure is not discussed here.

2.1 Page Layout Options

The `alb-thesis` document class attempts to respect page layout options. In particular, you can use `oneside`, and `twoside` as global options. It makes little sense to declare a large document `notitlepage`. Furthermore, the page layout will not accommodate `twocolumn` or `reversemp`. The page layout accommodates `a4paper` and `letterpaper` page sizes.

Page layout options must be placed in the `documentclass` declaration, and each relevant option should be explicitly declared since the `AlbLaTeXDocumentTemplate` makefile parses document class options. The following content is a typical example of the document class declaration.

```
\documentclass[10pt,a4paper,twoside]{alb-thesis}
```

2.2 Indexing Commands

The `alb-thesis` document class provides for two indices. Typically these take the form of a glossary or notation index, and a general index. Each must be setup in the preamble, populated in the document, and inserted in the back matter.

Given both indices are in use, the following commands are required. Firstly, in the preamble, the glossary and index must be declared as follows.

```
\makeglossary  
\makeindex
```

The indices must also be populated. The commands to this are located in the main matter, alongside the content being indexed. The details are the subject of standard L^AT_EX documentation. The following commands are examples of these entries.

```
\index{preorder!definition}  
\glossary{leq@$\leq$}
```

Then, in the back matter of the document, the glossary and the index must be inserted with commands for both the actual index and its heading. An example is the following.

```
\chapter{Notation Index}  
\printglossary  
  
\chapter{Index}  
\printindex
```

3 Makefile Targets

Given documents of the `alb-thesis` class are expected to contain an index, it makes good sense to use the makefile from the `AlbLaTeXDocumentTemplate` package. This makefile will detect the existence of index commands and take the appropriate steps. The target `all` is a synonym for `idx`, which generates the final PDF document such that the index references are correct.