

The kauthesis package*

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1 Introduction

The `kauthesis` package provides L^AT_EX classes for master's theses (`kaumasters` class), collection theses (`kaucollection` class), and monographs (`kaureport` class). The latest version can be obtained from

<http://github.com/ZjMNZHgG5jMXw/kauthesis> .

The user's manual is found in `kauguide.pdf`. This file provides the source code documentation to all three classes.

2 Usage

2.1 Master's thesis

This template can be found in `kaumasterstemplate.tex`. The `kaumasters` class is quite similar to L^AT_EX's `article` class. After loading the class, title, author, and institute have to be declared.

```
1 \documentclass{kaumasters}
2 \title{Title}
3 \author{Author}
4 \institute{Department of Mathematics and Computer Science}
5 \place{Place}
```

The thesis starts with the front matter `\frontmatter`. It will (re)print the title. The macro `\maketitle` does not exist, since the title will be created by Karlstad University Studies.

```
7 \begin{document}
8 \frontmatter
```

The two mandatory inhabitants of the front matter are the abstract (`\abstract` environment) and the `\tableofcontents`. If you like to write acknowledgements, put it between the abstract and the table of contents.

```
9 \begin{abstract}
10   Abstract.
11 \end{abstract}
```

*This document corresponds to `kauthesis` v1.3, dated 2012/12/15.

```

12 \begin{acknowledgements}
13   Thanks.
14 \end{acknowledgements}
15 \tableofcontents

```

The main matter starts with `\mainmatter` for adjusting the page numbering. The content in the main matter is your work. Any macro or environment known from L^AT_EX's article class can be used here.

```

16 \mainmatter
17 \section{Introduction}
18 \end{document}
19 \end{masterstemplate}

```

2.2 Report

This template can be found in `kaureporttemplate.tex`. Like the master's thesis class, the report class is derived from the L^AT_EX article class.

```

20 \documentclass{report}
21 \documentclass{kaureport}

```

After loading the class, title, author, and institute have to be declared.

```

22 \title{Title}
23 \author{Author}
24 \institute{Department of Mathematics and Computer Science}
25 \place{Place}
26 \begin{document}

```

The two mandatory inhabitants of the front matter are the abstract (`\abstract` environment) and the `\tableofcontents`. If you like to write acknowledgements, put it between the abstract and the table of contents.

```

27 \frontmatter
28 \begin{abstract}
29   Brief abstract.
30   \keywords keywords
31 \end{abstract}
32 \begin{acknowledgements}
33   Thanks.
34 \end{acknowledgements}
35 \tableofcontents

```

The main matter starts with `\mainmatter` for adjusting the page numbering. The content in the main matter is your work. Any macro or environment known from L^AT_EX's article class can be used here.

```

36 \mainmatter
37 \part{Introduction}
38 \section{Related work}
39 \part{Conclusions and Future Work}
40 \end{document}
41 \end{reporttemplate}

```

2.3 Collection thesis

This template can be found in `kaucollectiontemplate.tex`. Like the master's thesis class, the report class is derived from the L^AT_EX article class.

```

42 \*collectiontemplate>
43 \documentclass{kaucollection}

```

Page headings and can be created using the `scrheadings` packages.

```

44 \usepackage{scrpage2}
45 \pagestyle{scrheadings}
46 \renewcommand*{\headfont}{\normalfont\small}
47 \rehead{\thepaper}
48 \lohead{\thepapertitle}

```

After loading the class, title, author, and institute have to be declared.

```

49 \title{Title}
50 \author{Author}
51 \institute{Department of Mathematics and Computer Science}
52 \place{Place}
53 \begin{document}

```

The two mandatory inhabitants of the front matter are the abstract (`\abstract` environment) and the `\tableofcontents`. If you like to write acknowledgements, put it between the abstract and the table of contents.

```

54 \frontmatter
55 \begin{abstract}
56   Brief abstract.
57   \keywords keywords
58 \end{abstract}
59 \begin{acknowledgements}
60   Thanks.
61 \end{acknowledgements}
62 \tableofcontents

```

The table of contents is followed by the list of papers.

```

63 \listofpapers

```

The main matter starts with `\mainmatter` for adjusting the page numbering.

```

64 \mainmatter
65 \section{Introduction}

```

Create a list of summaries of all appended papers with `\listofsummaries`.

```

66 \section{Summary of Appended Papers}
67 \listofsummaries
68 \section{Conclusions and Future Work}

```

Append papers, each in an own `kaupaper` environment.

```

69 \begin{kaupaper}[ author=Author
70                   , title=Paper Title
71                   , reference=reference text.
72                   , email=author@kau.se
73                   , summary=Abstract in the intro.
74                   , participation=I am the main author.
75                   , label=paper:shorttitle
76                   ]

```

Appended papers may have their own titles and abstracts.

```

77   \maketitle
78   \begin{abstract}
79     Paper abstract.
80   \end{abstract}

```

```

81 Paper content.
82 \end{kaupaper}
83 \end{document}
84 \</collectiontemplate>

```

3 Implementation

3.1 Class options and dependencies

Class options are neither parsed nor passed to the underlying `article` class. All macros are derived from the standard `article` class.

```

85 \< *collection | report | masters>
86 \ProcessOptions\relax
87 \LoadClass{article}

```

`kauclear` provides page style switches in `\cleardoublepage`, `kaumeta` defines the macros relevant for creating title information, e.g., `\institute`.

```

88 \RequirePackage{kauclear}
89 \RequirePackage{kaumeta}

```

`kaustudies` sets the page dimension to the format required by Karlstad University Studies, `kauenvironments` defines environments such as `researchquestions` and `contributions`, `tikz` allows to place content material with absolute coordinates (required by `\vanityquote`).

```

90 \< *collection | report>
91 \RequirePackage{kaustudies}
92 \RequirePackage{kauenvironments}
93 \RequirePackage{tikz}
94 \</collection | report>

```

`kaupaper` defines the macros for appending papers to the collection thesis.

```

95 \< *collection>
96 \RequirePackage{kaupaper}
97 \</collection>

```

`kauparts` defines `\kaupart`, a replacement for `\part`.

```

98 \< *report>
99 \RequirePackage{kauparts}
100 \</report>

```

Garamond becomes the default font on A4 page layout.

```

101 \< *masters>
102 \RequirePackage[urw-garamond]{mathdesign}
103 \RequirePackage[paper=a4,pagesize,twoside=semi]{typearea}
104 \</masters>

```

3.2 Language support

`\acknowledgementname` By default, the `acknowledgements` environment will create an unnumbered section with the title “Acknowledgements” (or “Tacksägelse”, if Swedish is chosen as default language). The section headline can be changed to any other language by redefining the macro `\acknowledgementname`.

```

105 \AtBeginDocument{%
106   \ifpackageloaded{babel}%

```

```

107     {\newcommand*\acknowledgementname{%
108         \iflanguage{swedish}{Tacks\ "agelser}{Acknowledgements}}}%
109     }%
110     {\newcommand*\acknowledgementname{Acknowledgements}}}%
111 }

```

\keywordname The abstract of collection theses and reports is followed by the list of keywords. By default, the list is introduced by the word “Keywords” (and “Nyckelord” if the default language is set to Swedish). The list introduction can be changed to any other language by redefining the macro **\keywordname**.

```

112 (*collection | report)
113 \AtBeginDocument{%
114     \ifpackage{babel}%
115         {\newcommand*\keywordname{%
116             \iflanguage{swedish}{Nyckelord}{Keywords}}}%
117         }%
118         {\newcommand*\keywordname{Keywords}}}%
119 }
120 </collection | report>

```

\introname In collection thesis, the main matter starts automatically with an Introductory Summary. The name of the Introductory Summary (“Inledande sammanfattning” in Swedish) can be changed to any other language by redefining the macro **\introname**.

```

121 (*collection)
122 \AtBeginDocument{%
123     \ifpackage{babel}%
124         {\newcommand*\introname{%
125             \iflanguage{swedish}%
126                 {Inledande sammanfattning}%
127                 {Introductory Summary}}}%
128         }%
129         {\newcommand*\introname{Introductory Summary}}}%
130 }
131 </collection>

```

3.3 Title page

Karlstad University Studies will create the title page for the thesis, thus, creating an own title page is not necessary.

\kauths@maketitle The definition of **\maketitle** in the article class creates a title without creating a separate page. The original definition is preserved in **\kauths@maketitle**.

```

132 \let\kauths@maketitle\maketitle

```

\maketitle **\maketitle** does not serve any purpose. When invoked, it produces a warning, referring the user to the **abstract** environment.

```

133 \renewcommand\maketitle{%
134     \PackageWarning{maketitle does not serve any purpose in this class.
135         The abstract environment reproduces the title instead.}%
136 }

```

3.4 Front matter

The front matter starts after the title on page iii. It contains the abstract of the thesis, followed by an optional acknowledgements section and the table of contents. In collection theses and reports, the keywords are defined in the front matter.

<code>\kauths@abstract</code>	<p>The <code>abstract</code> environment of the <code>article</code> class provides a perfect layout for article abstracts in collection theses. It will be used for the abstracts of appended papers and preserved in the macro <code>\kauths@abstract</code>.</p> <pre> 137 \let\kauths@abstract\abstract% 138 \let\kauths@endabstract\endabstract%</pre>
<code>\frontmatter</code>	<p>The front matter is started with <code>\frontmatter</code>. It is assumed that this macro directly runs after the optional <code>\maketitle</code>.</p> <pre> 139 \newcommand*\frontmatter{% 140 \clearpage% The front matter starts on page iii, i. e., two pages are reserved for the title. 141 \setcounter{page}{3}% 142 \renewcommand\thepage{\roman{page}}%</pre>
<code>abstract</code>	<p>The <code>abstract</code> environment in the front matter creates a title and an unnumbered abstract section.</p> <pre> 143 \renewenvironment{abstract}{%</pre>
<code>\keywords</code>	<p>The abstract's last line in collection theses and reports is supposed to be a list of keywords preceded by <code>\keywords</code>.</p> <pre> 144 (*collection report) 145 \newcommand\keywords{\paragraph{\keywordname:}}% 146 (/collection report) The abstract starts by repeating the title, author, and the institue. 147 \cleardoublepage% 148 \section*{\@title}% 149 \textsc{\@author}\par% 150 \noindent\textit{\@institute}% 151 \section*{\abstractname}% 152 }{% The thesis continues after the abstract on an odd page. 153 \cleardoublepage% 154 }% 155 }</pre>
<code>acknowledgements</code>	<p>The environment <code>acknowledgements</code> creates an unnumbered section.</p> <pre> 156 \newenvironment{acknowledgements}{% 157 \cleardoublepage% 158 \section*{\acknowledgementname}% 159 }{% The author's name is reused to create an attribution line at the end of the acknowledgements section. 160 \par\bigskip\bigskip\bigskip\noindent\@place, \@date\hfill \@author% 161 \cleardoublepage% 162 }</pre>

`\kauths@tableofcontents` The `\tableofcontents` definition from the `article` class is preserved. It is not reused in this class.

```
163 \let\kauths@tableofcontents\tableofcontents
```

`\tableofcontents` The redefined macro makes the table of contents start on an odd page.

```
164 \renewcommand\tableofcontents{%
165   \cleardoublepage%
166   \kauths@tableofcontents%
167 }
```

3.5 Main matter

The main matter is started with `\mainmatter`. The macro resets the page counter to page 1 and, for collection theses, it immediately creates the part Introductory Summary.

`\mainmatter` The optional argument of `\mainmatter[body material]` can be used to get access to the part's title page, e.g., for adding a quote with `\vanityquote`.

```
168 \newcommand\mainmatter[1][]{%
169   \cleardoublepage%
```

The original definition of the `abstract` environment is restored.

```
170   \renewenvironment{abstract}{\kauths@abstract}{\kauths@endabstract}
```

The page counter is set to page 1.

```
171   \setcounter{page}{1}%
172   \pagenumbering{arabic}%
```

The Introductory Summary title page is created with `\introname` and *body material*.

```
173 \ifcollection
174   \kaupart*[body={#1}]{\introname}%
175 \fi
176 }
```

`\vanityquote` The macro `\vanityquote{quote}[reference]` can be used in collection theses and reports to add quotes to the cover pages of parts, e.g., in *body material* of `\mainmatter`. The first argument, *quote*, is the quote and the second, *reference*, is the reference to the person which is quoted.

```
177 \ifcollection\report
178 \newcommand\vanityquote[2]{%
```

The quote is placed relative to the borders of the page. TikZ is doing the actual placing.

```
179   \begin{tikzpicture}[remember picture,overlay]%
```

The placing reference is the lower right corner of the page.

```
180     \path (current page.south east) +(-3,3.5)%
181         node%
182         [ anchor=south east%
183           , font=\large%
184           , text width=25em%
```

The closing quotation marks are placed outside the quote’s right margin.

```
185      ] {\raggedleft‘‘#1\rlap{’}’}%
186      \normalfont\par\medskip\itshape #2\par};%
187 \end{tikzpicture}%
188 }
189 </collection | report>
```

`\part` In the `kaureport` class, the `\part{<headline>}` is replaced by `\kaupart`.

```
190 <*report>
191 \let\part\kaupart
192 </report>
193 </collection | report | masters>
```

Change History

v1.0	General: SBe’s licentiate version . . . 1	v1.3	General: Merged the classes’ dtx files 1
v1.1	General: Initial public release 1	v1.4	General: Fixed babel.sty support . . 1
v1.2	General: Support for babel.sty, Documentation added 1	v1.5	General: Added templates for kau- collection and kaureport 1

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