

# HsH-Classes — A set of $\text{\LaTeX}$ classes for use in Hochschule Hannover \*

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Maintained on <a href="https://lab.it.hs-hannover.de/qxx-tul-u1/latex-template-hsh">https://lab.it.hs-hannover.de/qxx-tul-u1/latex-template-hsh</a>
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## Contents

<b>1 The different classes</b>	<b>2</b>	5.2.3 Loading the parent class . . . . .	9
<b>2 Document options</b>	<b>2</b>	5.3 Package loading . . . . .	9
2.1 Generic options share by all classes . . . . .	2	5.3.1 Ensuring German works . . . . .	10
2.2 Options for modifying the document . . . . .	2	5.3.2 Generally usefull packages . . . . .	10
2.3 Standalone specific options . . . . .	3	5.3.3 Options for packages that could be loaded by the user . . . . .	11
<b>3 Provided commands</b>	<b>4</b>	5.4 Custom commands . . . . .	12
3.1 Title matters . . . . .	4	5.4.1 Document seperation commands . . . . .	12
3.2 Commands for document writing . . . . .	4	5.4.2 The Logo for Hochschule Hannover . . . . .	12
3.3 Default $\text{\LaTeX}$ Commands that are modified . . . . .	4	5.4.3 Title matters . . . . .	13
<b>4 Package laoding</b>	<b>5</b>	5.4.4 Commands for document writing . . . . .	13
4.1 Allways loaded packages . . . . .	5	5.4.5 Micalanious commands . . . . .	15
4.2 Conditionally loaded Packages . . . . .	5	5.5 Document setup . . . . .	15
4.3 Pre-configured Packages . . . . .	5	5.5.1 Fonts and text styling . . . . .	15
<b>5 Implementation</b>	<b>5</b>	5.5.2 Page layout . . . . .	15
5.1 Internal commands . . . . .	5	5.5.3 Styling $\text{\LaTeX}$ default constucts . . . . .	15
5.2 Option handeling . . . . .	6	5.5.4 Header and footer . . . . .	16
5.2.1 Unknown options . . . . .	9	5.5.5 Titlepage . . . . .	17
5.2.2 Default options . . . . .	9	<b>6 Change History</b>	<b>21</b>

## Abstract

The following documents a set of  $\text{\LaTeX}$  classes created for the Hochschule Hannover. They are intended to ease the workflow when writing documents by providing a common formating basis that should work for pretty much everything a student will be expected to write. This can be simple one-paged documents, excercises, lab-reports, papers or bachelors and masters thesises.

The classes provide interfaces to modify commend requiriements, provide commands to get specifics like the logo and provide and pre-configure comonly needed packages. This should get you going imidealty and reduce the setuptime significantly.

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# 1 The different classes

The project classes provided by the Project all carry the HsH- prefix. Here is a list of the available classes and some explanation on when to use which class.

HsH-article	A article-class based on KOMA-Scripts scrartcl. It is designed for quick and compact documents and is useful for writing lab-protocols and alike. It does not have chapters and therefore never breaks to a new page on its own.
HsH-report	A report-class based on KOMA-Scripts scrreprt. This is probably the most useful class, as it can be used for a wide variety of documents (beginning with lab-reports and ending at complete thesis). The line between article and report is somewhat blurry, so use as you see fit.
HsH-standalone	A helper class based based on the standalone class. It is designed only for creating images as separate documents to keep things organized and compiler times low. It is useful for creating graphs, circuit diagrams or other kind of complex sub documents.

## 2 Document options

To configure the behavior and style of documents using this class, options can be passed via the `\documentclass[<options>]{<document-class>}` command.

It should be noted that all unknown keys will be passed to the parent class and a log-message issued.

### 2.1 Generic options share by all classes

These Options are available regardless of documentclass and modify common things.

fontfamily	The fontfamily= <i>&lt;opt&gt;</i> option configures which font-style is used. For convenience there are also short-forms provided. The available options are:
sans	
roman	sans   sans-serif A sans-serif font is used (similar to Arial)
	roman   serif A serif font is used (similar to Times-new-Roman)

language	The language= <i>&lt;opt&gt;</i> option set the main language you write in. It ensures texts like auto-generated headings are localised properly. You can pass in any language-name understood by the babel package. German is the default. For convenience there are also short-forms provided.
english	
german	

todos	The todos option is a simple switch that activates support for the todonotes package. It enables/disables the package as well as increasing the pagewidth to make space for the notes. You can use the commands from the package to make notes and other annotations (similar to how MS-Words comments work). When you pass off   false all the annotation will disappear from the PDF while still being in the source.
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**Note:** setting todos=off after having used the option will most likely produce compilation errors. These will go away after you remove the temporary files.

### 2.2 Options for modifying the document

The following options are only available for documents (so not utility classes).

linespacing	The linespacing= <i>&lt;opt&gt;</i> option configures the spacing in between lines. For convenience there are also short-forms provided. The available options are:
singlespacing	
onehalfspacing	single No additional space is added in between lines.
doublespacing	onehalf Aproximately half a line of empty space is added inbetween lines.
	double About a full lineheight is left in between lines.
parskip	The parskip= <i>&lt;opt&gt;</i> option configures the spacing in between paragraphs. This is a option originally implemented by KOMA-Script (see <a href="#">its manual</a> ) so all its options apply. The class only adds additional options.
	For you convenience the relevant options are also listed here:

<code>false   off</code>	Paragraphs are identified by indentation of the first line by 1em. There is no spacing requirement at the end of the last line of a paragraph.
<code>full   true   on</code>	Paragraphs are identified by a vertical space of one line between paragraphs. There must be at least 1em of free space at the end of the last line of the paragraph.
<code>full-</code>	Paragraphs are identified by a vertical space of one line between paragraphs. There is no spacing requirement at the end of the last line of a paragraph.
<code>full+</code>	Paragraphs are identified by a vertical space of one line between paragraphs. There must be at least a third of a line of free space at the end of a paragraph.
<code>full*</code>	Paragraphs are identified by a vertical space of one line between paragraphs. There must be at least a quarter of a line of free space at the end of a paragraph.
<code>half</code>	Paragraphs are identified by a vertical space of half a line between paragraphs. There must be at least 1em free space at the end of the last line of a paragraph.
<code>half-</code>	Paragraphs are identified by a vertical space of half a line between paragraphs. There is no spacing requirement at the end of the last line of a paragraph.
<code>half+</code>	Paragraphs are identified by a vertical space of half a line between paragraphs. There must be at least a third of a line of free space at the end of a paragraph.
<code>half*</code>	Paragraphs are identified by a vertical space of half a line between paragraphs. There must be at least a quarter of a line of free space at the end of a paragraph.
<code>never</code>	No inter-paragraph spacing will be inserted even if additional vertical spacing is needed for vertical adjustment with <code>\flushbottom</code> .
<code>never+</code>	No inter-paragraph spacing will be inserted. There must be at least a third of a line of free space at the end of a paragraph.
<code>never*</code>	No inter-paragraph spacing will be inserted. There must be at least a quarter of a line of free space at the end of a paragraph.
<code>headheight</code>	The <code>headheight=&lt;dim&gt;</code> option allows you to set the required size of the header. You may need to modify this if you get a <code>\headheight to low</code> error message. The emssage should tell you what value you need, but you can pass any valid length.

### Often relevant KOMA-Script options

The following options are implemented by the parent classes and only listed here for completeness. For more details, see [its manual](#).

<code>fontsize</code>	The <code>fontsize=&lt;size&gt;</code> options takes a size in pt. It is usually in the range of 10-12, but other sizes can work as well.
<code>paper</code>	The <code>paper=&lt;size&gt;</code> options accepts a number of options, most ISO formats are supported, but also others like letter or legal.
<code>twoside</code>	The <code>twoside</code> option sets your document up for double-sided printing. The header and footer will take this into account and binding-correction will be applied along the inner edge.
<code>BCOR</code>	The <code>BCOR=&lt;dim&gt;</code> option allows you to define a custom binding-correction. Any valid length can be put here, but too large of a value will shrink the outer margin to a not-desirable level.

## 2.3 Standalone specific options

The standalone utility class has some special options which are documented here.

<code>margin</code>	The <code>margin=&lt;dim&gt;</code> option controls how much whitespace is added around your standalone document. This usually looks better which is why the default is 0.25 cm, but you can suppress it by passing 0 cm.
<code>multi</code>	The <code>multi=&lt;opt&gt;</code> option defines which environment makes up a page. It can be passed more than once.

### 3 Provided commands

The classes define a set of commands which are explained in the following section.

`\HsHClassName` Each class defines the macro `\HsHClassName` to contain its classname. This is mostly useful so internals can reuse the classname, but you could also check against it if you needed to.

#### 3.1 Title matters

L<sup>A</sup>T<sub>E</sub>X has a set of default commands which are used to define data for the titlepage, like `\title` or `\author`. The classes define a few additional commands, which are documented here.

`\matrikelnr` The `\matrikelnr{<nr[, ..]>}` macro sets the matrikelnumber of the author(s). It can be a single number or a comma separated list of numbers. The numbers will be matched to the authors passed into `\author`.

`\professor` You can pass any text to `\professor{<text>}`, it will be printed on the bottom of the titlepage.

`\keywords` This macro can be used to define keywords which are relevant to your document. They will be printed as part of the abstract and be put into the PDF's meta-data.

#### Modifying the Logo

`\HsHlogoPath` The logo is loaded from a file whose name is read from `\HsHlogoPath`. Change it to use a different logo-file.

`\HsHlogoPage` As the PDF file can have multiple pages, the `\HsHlogoPage` command stores which page to load.

`\includeHsHlogohere` The macro `\includeHsHlogohere[<width>]` is used by `\maketitle` to produce the logo. But if you want it elsewhere, you can call this macro yourself.

#### 3.2 Commands for document writing

The following commands will be useful to you when writing a document.

`\declarationofauthorship` The command `\declarationofauthorship[<align>]` can be used to print a "declaration of authorship" in the current location, similar to how `tableofcontents` and `friends` work. It will produce a horizontal line, a text block containing the regulatory text and a signature block for every author. The command is localised for both English and German. Using the optional argument, you can define the positioning. Pass `t` for alignment at the top of the page and `b` for bottom alignment (*default*).

The three commands `\frontmatter`, `\mainmatter` and `\backmatter` are provided for report classes. They separate document sections and automatically set up page number styles.

`\frontmatter` `\frontmatter` sets the page numbers to capital Roman numerals. This is usually required for everything before the first chapter.

`\mainmatter` `\mainmatter` sets the page numbering to "normal" Arabic numbers. This is usually the style for the document content.

`\backmatter` `\backmatter` can be used for appendices and alike. It sets the page numbering to small Roman numerals.

#### 3.3 Default L<sup>A</sup>T<sub>E</sub>X Commands that are modified

Additionally, some of L<sup>A</sup>T<sub>E</sub>X's default commands are modified to better fit this class. This is documented here.

`\title` The `\title[<short-title>]{<title>}` command now takes an additional, optional argument. You can use it for a shorter version of your title, that will be used in the header to save on space.

`\maketitle` The `\maketitle` command if L<sup>A</sup>T<sub>E</sub>X default way to create a titlepage. We redefine it to produce a titlepage that matches the style typically used on the Hochschule Hannover. This includes the logo being printed, depending on the `f1` to `f5` document options.

The command now also takes an options alignment-parameter: `\maketitle[<align>]`. You can pass `l` | `c` | `r` to get *left*, *center* or *right* alignment.

## 4 Package loading

The classes load some packages for internal use as well as loading and configuring common use packages. The details are documented in the following section.

### 4.1 Allways loaded packages

fontenc for output encoding, set to the european character set  
babel for language-specific typesetting  
bookmark creates bookmarks in the PDF  
hyperref for easy referencing and linking  
caption to customize captions and make references point to the beginning of the floats  
graphicx for importing and manipulating images  
amsmath,amssymb,amsfonts more options when typesetting math  
lmodern sets up the Latin-Modern font  
setspace used for configuring linespacing

There are also some packages for internal functionality that shouldn't concern the user, but they are listed here for completeness.

scrbase  
pgffor

### 4.2 Conditionally loaded Packages

A subset of packages is only loaded (or loaded with specific options) depending on options passed to the package

babel gets configured depending on language  
csquotes for language-specific quotations marks  
ziffer only loaded for German documents, sets comma as decimal separator  
todonotes loaded depending on todos

### 4.3 Pre-configured Packages

These packages are configured by the class to work in a cooperative way. The user must load them in this preamble via `\usepackage{<pkg-name>}` however, as loading them always bears additional, unnecessary overhead.

## 5 Implementation

### 5.1 Internal commands

`\HsHClassName` The classname of specific class is stored in the `\HsHClassName` which gets used throughout the code.

```
1 \let\HsHClassName\@currname
```

There is also a second macro `\HsHClassName@ParentClass` which stores the parent class name.

```
2 \def\HsHClassName@ParentClass{%  
3 <article> scrartcl%  
4 <report> scrreprt%  
5 <standalone> standalone%  
6 }
```

## 5.2 Option handling

The options are handled using features provided by the KOMA-Script ecosystem. To get access to this the `srcbase` package is loaded.

```
7 \RequirePackage{srcbase}
```

We also require some packages for some of the option, these are loaded next.

```
8 \RequirePackage{setspace}
```

A new family of keys is created and shared by all elements of this project. For that the `\DefineFamily` macro is used. The family name is *HsH*, matching the usual prefixes.

```
9 \DefineFamily{HsH}
```

Additionally each class-file represents a member in the family. This is defined using the `\DefineFamilyMember` macro. It's optional argument is set to the current filename by default, so we do not need to specify it, just the family name to attach it to.

```
10 \DefineFamilyMember{HsH}
```

`\HsH@Options@PassToParent` To be able to pass options to the parent class where needed easily, a command is defined. It also issues a log-message.

```
11 \newcommand{\HsH@Options@PassToParent}[1]{%
12   \ClassInfoNoLine{\HsHClassName}{passing option to parent class: #1}%
13   \PassOptionsToClass{#1}{\HsHClassName@ParentClass}%
14 }
```

`\HsH@Options@DeclareAlias` It is also useful to have short-versions of options. The following commands make it easy to declare these.

```
15 \newcommand{\HsH@Options@DeclareAlias}[3][HsH]{%
16   \DeclareOption{#2}{\FamilyExecuteOptions{#1}{#3}}%
17 }
```

`fontfamily` The first option to be defined is `fontfamily`. It's defined as a *Numerical* key so that it can accept multiple options and map them to a switch case.

```
18 \DefineFamilyKey{HsH}{fontfamily}{
19   \begingroup
20     \FamilySetNumerical{HsH}{parskip}{@tmp}{%
21       {sans}{0}, {sans-serif}{0},%
22       {roman}{1}, {serif}{1},%
23     }{#1}
24     \ifx\FamilyKeyState\FamilyKeyStateProcessed
25       \aftergroup\FamilyKeyStateProcessed
26       \ifcase@tmp% 0
27         \endgroup
28         \renewcommand{\familydefault}{\sfdefault}
29         \if@atdocument\AfterKOMAOptions{\selectfont}\fi
30       \or% 1
31         \endgroup
32         \renewcommand{\familydefault}{\rmdefault}
33         \if@atdocument\AfterKOMAOptions{\selectfont}\fi
34       \else% should never be
35         \endgroup
36       \fi
37     \else
38       \endgroup
39       \FamilyKeyStateUnknownValue
40     \fi
41 }
```

`sans` For convenience, there are also two short-versions defined.

```
roman 42 \HsH@Options@DeclareAlias{sans}{fontfamily=sans}
43 \HsH@Options@DeclareAlias{roman}{fontfamily=roman}
44 \*!standalone
```

`linespacing` The `linespacing` options is also a *Numerical* option, mapping to three cases. They execute the appropriate commands of the `setspace` package.

```

45 \DefineFamilyKey{HsH}{linespacing}{%
46   \begingroup
47     \FamilySetNumerical{HsH}{linespacing}{@tempa}{%
48       {single}{0},%
49       {onehalf}{1},%
50       {double}{2},%
51     }{#1}
52   \ifx\FamilyKeyState\FamilyKeyStateProcessed
53     \aftergroup\FamilyKeyStateProcessed
54     \ifcase \@tempa% 0
55       \endgroup
56       \if@atdocument\singlespacing\else\AtEndOfClass{\singlespacing}\fi
57     \or% 1
58       \endgroup
59       \if@atdocument\onehalfspacing\else\AtEndOfClass{\onehalfspacing\AfterTOCHead{\singlespacing}}\fi
60     \or% 2
61       \endgroup
62       \if@atdocument\doublespacing\else\AtEndOfClass{\doublespacing\AfterTOCHead{\singlespacing}}\fi
63     \else% should never be
64       \endgroup
65     \fi
66   \else
67     \endgroup
68     \FamilyKeyStateUnknownValue
69   \fi
70 }
71 }
```

`singlespacing` For convenience, there are also these short-versions defined.

```

onehalfspacing 72 \HsH@Options@DeclareAlias{singlespacing}{linespacing=single}
doublespacing 73 \HsH@Options@DeclareAlias{onehalfspacing}{linespacing=onehalf}
               74 \HsH@Options@DeclareAlias{doublespacing}{linespacing=double}
```

`parskip` The `parskip` option is special in that it originally a KOMA-Script option that get expanded by this class. Only two new cases are defined here and everything unknown gets passed to the parent class.

It should also be noted that this option can't execute its code immediately, as the commands needed are only defined later when the parent class loads in. So the `\setparsizes` command is pushed into a hook.

```

75 \DefineFamilyKey{HsH}{parskip}{%
76   \begingroup
77     \FamilySetNumerical{HsH}{parskip}{@tempa}{%
78       {never+}{0},%
79       {never*}{1},%
80     }{#1}
81   \if@atdocument
82     \ClassError{\HsHClassName}{
83       option 'parskip' can only be configured in preamble!
84     }
85   \fi
86   \ifx\FamilyKeyState\FamilyKeyStateProcessed
87     \aftergroup\FamilyKeyStateProcessed
88     \ifcase \@tempa% 0
89       \endgroup
90       \AtEndOfClass{\setparsizes{\z@}{\z@}{.3333\linewidth \@plus 1fil}}
91     \or% 1
92       \endgroup
93       \AtEndOfClass{\setparsizes{\z@}{\z@}{.25\linewidth \@plus 1fil}}
94     \else% should never be
95       \endgroup
96     \fi
```

```

97   \else
98     \endgroup
99     \HsH@Options@PassToParrent{parskip=#1}
100    \FamilyKeyStateProcessed
101    \fi
102 }

```

`headheight` The `headheight` option just set the `\headheight` to the given value.

```

103 \def\HsH@opt@headheight{}
104 \FamilyStringKey{HsH}{headheight}{\HsH@opt@headheight}
105 \AtEndOfClass{%
106   \headheight=\HsH@opt@headheight%
107 }

```

For the `twoside` option we only redefine the default, everything else is handled by the parent class.

```

108 \DefineFamilyKey{HsH}{twoside}[semi]{%
109   \HsH@Options@PassToParrent{twoside=#1,BCOR=1cm}
110   \FamilyKeyStateProcessed
111 }
112 \!/standalone)

```

`\HsH@opt@language` First, the macro to store the language name in is created. The default is `nil`, as babel will see this as no-language.

```

113 \def\HsH@opt@language{nil}

```

`language` The key is then defined to store its value inside the command. This allows the option to be called multiple times, but only the last set value will be passed on to babel.

```

114 \FamilyStringKey{HsH}{language}{\HsH@opt@language}

```

`english` For convenience, there are also these short-versions defined.

```

115 \HsH@Options@DeclareAlias{english}{language=english}
116 \HsH@Options@DeclareAlias{german}{language=ngerman}
117 \HsH@Options@DeclareAlias{ngerman}{language=ngerman}

```

`\HsH@opt@faculty` As we need a default value that is not zero, the macro needs to be defined and initialised manually.

```

118 \def\HsH@opt@faculty{1}

```

`faculty` The `faculty` options is once again a *Numerical* option, mapping the five faculties and storing the selected one in `\HsH@opt@faculty`.

```

119 \FamilyNumericalKey{HsH}{faculty}{\HsH@opt@faculty}{%
120   {none}{1}, {false}{1},%
121   {f1}{2}, {1}{2},%
122   {f2}{3}, {2}{3},%
123   {f3}{4}, {3}{4},%
124   {f4}{5}, {4}{5},%
125   {f5}{6}, {5}{6},%
126 }

```

`f1` For convenience, there are also these short-versions defined.

```

127 \HsH@Options@DeclareAlias{f1}{faculty=f1}
128 \HsH@Options@DeclareAlias{f2}{faculty=f2}
129 \HsH@Options@DeclareAlias{f3}{faculty=f3}
130 \HsH@Options@DeclareAlias{f4}{faculty=f4}
131 \HsH@Options@DeclareAlias{f5}{faculty=f5}

```

`todos` The boolean option `todos` is simply created using the commands from `scrbase`. Boolean options already default to `\true` if called without an argument, so no need to define an explicit alias.

```

132 \FamilyBoolKey{HsH}{todos}{@todos}

```



For the standalone class the `fontsize` option is mocked to present a standardised interface. A user might expect this option to be passable to this class and we should create an annoying error just for this.

```

133 <standalone>
134 \DefineFamilyKey{HsH}{fontsize}{%
135   \ClassInfoNoLine{\HsHClassName}{The 'fontsize' option is only a mock, its has not effect}
136   \FamilyKeyStateProcessed
137 }
138 </standalone>

```

### 5.2.1 Unknown options

Unknown options will be passed to the parent class. For that a `@else@` key is defined on the `HsH` family, which will be executed for every unknown key-value option. Unknown bare options are handled by the `\DeclareOption*` command and will be passed there.

```

139 \DefineFamilyKey{HsH}{@else@}{
140   \HsH@Options@PassToParrent{#1}
141   \FamilyKeyStateProcessed
142 }
143 \DeclareOption*{
144   \HsH@Options@PassToParrent{\CurrentOption}
145 }

```

### 5.2.2 Default options

The different classes all execute a set of default options, which is handled by the following code.

```

146 \FamilyExecuteOptions{HsH}{%
147   fontfamily=sans-serif,
148 <standalone>
149   fontsize=11pt,
150   language=ngerman,
151 <article>   parskip=never+,
152 <report>   parskip=half+,
153   linespacing=single,
154   headheight=2.15\baselineskip,
155 </standalone>
156 <article | report>
157   toc=listof,
158   toc=bibliography,
159 </article | report>
160   faculty=none,
161 <standalone>
162   margin=0.25cm,
163   multi=tikzpicture,
164   multi=circuitikz,
165 </standalone>
166 }

```

Now we can process the options for the `HsH` family.

```

167 \FamilyProcessOptions{HsH}\relax

```

### 5.2.3 Loading the parent class

```

168 \LoadClass{\HsHClassName@ParrentClass}

```

## 5.3 Package loading

The classes load and configure some common packages to reduce the needed amount of boilerplate code in your preamble.

Additionally there are settings provided for packages that are used more rarely, but will be set up correctly if you decide to load them via `\usepackage{}`.

### 5.3.1 Ensuring German works

With modern LaTeX systems the encoding of inputfiles is UTF-8 by default, so the inputenc package is no longer required. Should the user still use a old setup or use a different encoding, he is responsible for loading inputenc himself.

The font-encoding for the pdf file is also set up to allow for the full european characterset.

```
169 \RequirePackage[T1]{fontenc}
170 \RequirePackage{type1ec}
```

To ensure localised translations of all displayed text automatically depend on the user-selected language, the babel package is loaded. This also allows for the use of the \iflanguage command, which is relevant later.

```
171 \RequirePackage[main=\HsH@opt@language]{babel}
```

Quotationsmarks are also very different between languages, so the following ensures the correct style for the correct language.

```
172 \RequirePackage[autostyle=true]{csquotes}
173 \MakeOuterQuote{"}
```

German uses a comma as the decimal separator, which collides with L<sup>A</sup>T<sub>E</sub>Xs default english setting of using the comma as a thousands separator and therefore replacing it with some whitespace on printed version. Luckily loading the ziffer package sets this up to match the german standart.

```
174 \iflanguage{ngerman}{\RequirePackage{ziffer}}{}
```

### 5.3.2 Generally usefull packages

We load hyperref for clickable links and configure it to write meta-date to the PDF.

```
175 \RequirePackage[hidelinks]{hyperref} % must load before 'bookmarks'
176 \RequirePackage{bookmark}
177 \AtBeginDocument{
178   \hypersetup{
179     pdfinfo={
180       Title={\@title},
181       Author={\@author},
182       Subject={\@subject},
183       Keywords={\@keywords}
184     }
185   }
186 }
```

The todonotes package is greate for anotation, but extremly expensive on compiletime. So we load it only if the user requests it. Also its commands are stubed, so that they can be left in the sourcecode and jut not output anything.

```
187 \if@todos
188   \PassOptionsToPackage{
189     textsize=small,
190     figwidth=.6\textwidth
191   }{todonotes}
192   \RequirePackage{todonotes}
193 \else
194   \newcommand{\listoftodos}[1]{}
195   \newcommand{\todo}[2] [] {}
196   \newcommand{\missingfigure}[2] [] {}
197 \fi

198 \RequirePackage[hypcap=true]{caption}
199 \RequirePackage{graphicx}
200 \RequirePackage{amsmath,amssymb,amsfonts}
201 \RequirePackage{svgnames}{xcolor}
```

### 5.3.3 Options for packages that could be loaded by the user

Some package are not always needed and potentially heavy to load in by default. But its still usefull to set default options for these packages.

These differ from the settings provided in `HsH-classes.cfg` in that they are defaults that apply allway and not user-configurable preferences which are user or even project specific.

For the bibtex we ensure the *biber* backend is selcted, which matches the settings in `.latexmkrc`.

```
202 <*article|report>
203 \PassOptionsToPackage{backend=biber}{biblatex}
204 \AtBeginDocument{
205   \makeatletter
206   \@ifpackageloaded{biblatex}{
207     \renewcommand*{\mkbibacro}[1]{\MakeUppercase{#1}}
208   }{}%
209   \makeatother
210 }
211 </article|report>
```

For bibtex we load the free-standing units, mostly for backwards compatibility. We also ensure german language specific settings are applied.

```
212 \PassOptionsToPackage{free-standing-units}{siunitx}
213 \AtBeginDocument{
214   \makeatletter
215   \@ifpackageloaded{siunitx}{
216     \iflanguage{ngerman}{
217       \sisetup{output-decimal-marker={,}}
218     }{}
219   }{}
220   \makeatother
221 }
```

For better compatibility with the listings package we load the scrhack package. We also pass some configurations to if it gets loaded.

```
222 \RequirePackage{scrhack}
223 \AtBeginDocument{
224   \makeatletter
225   \@ifpackageloaded{biblatex}{
226     \RequirePackage{lstautogobble}\lstset{autogobble=true}
227     \iflanguage{ngerman}{
228       \lstset{literate={Ö}{\0}{1}{Ä}{\0}{1}{Ü}{\0}{1}{ß}{\0}{1}{ü}{\0}{1}{ä}{\0}{1}{ö}{\0}{1}}
229     }{}
230   }{}
231   \makeatother
232 }
```

The circuitikz needs bo be configure so it matches typical european styles.

```
233 \PassOptionsToPackage{european,EFvoltages,straightvoltages,betterproportions}{circuitikz}
```

For other packages we provide the settings more as a recomendation of what is usefull.

As the user might want to change these, we outsource this to a seperat file and input it `\AtBeginDocument`. That way the user can just replace the file with his custom version.

```
234 \AtBeginDocument{
235   \makeatletter
236   \InputIfFileExists{HsH-classes.cfg}{
237     \ClassInfo{\HsHClassName}{Local config file HsH-classes.cfg used.}
238   }{
239     \ClassInfo{\HsHClassName}{No HsH-classes.cfg!! I hope you configered it yourself.}
240   }
241   \makeatother
242 }
```

## 5.4 Custom commands

### 5.4.1 Document separation commands

The following commands are only defined for book type classes by default. But they are also useful for the report class, so we define them in that case.

```
243 \<report>
```

`\if@mainmatter` We define a switch which stores if the document is currently at a mainmatter section. It defaults to true as the user needs to explicitly set the state to something different.

```
244 \newif\if@mainmatter\@mainmattertrue
```

As a pagenumbers change requires a fresh page, this is ensured first. We also need to make sure that on twosided document, the first page is always on the left.

`\frontmatter` The pagenumbers are set to capital roman numerals.

```
245 \newcommand{\frontmatter}{
246   \if@twoside\cleardoubleoddpage\else\clearpage\fi
247   \@mainmatterfalse\pagenumbering{Roman}
248 }
```

`\mainmatter` The pagenumbers are set to arabic numerals.

```
249 \newcommand{\mainmatter}{
250   \if@twoside\cleardoubleoddpage\else\clearpage\fi
251   \@mainmattertrue\pagenumbering{arabic}
252 }
```

`\backmatter` The pagenumbers are set to arabic numerals.

```
253 \newcommand{\backmatter}{
254   \if@openright\cleardoubleoddpage\else\clearpage\fi
255   \@mainmatterfalse\pagenumbering{roman}
256 }
```

```
257 \</report>
```

### 5.4.2 The Logo for Hochschule Hannover

The following macros are responsible for creating the logo. They load a specific page of a PDF file and display it.

`\HsHlogoPath` This macro contains the path to load the PDF from. It defaults to HSH-Logo.pdf, which is provided by this project inside the scr/ folder.

```
258 \newcommand{\HsHlogoPath}{HSH-Logo.pdf}
```

`\HsHlogoPage` This macro stores the page to use from the PDF. It will be set via the documentoption faculty.

```
259 \newcommand{\HsHlogoPage}{\HsH@opt@faculty}
```

`\includeHsHlogohere` Calling this macro produces the logo in-place. You can specify the width as an optional argument. The default is 5 cm.

If the file provided via `\HsHlogoPath` doesn't exist, the command will produce an error.

```
260 \newcommand{\includeHsHlogohere}[1][5cm]{
261   \IfFileExists{\HsHlogoPath}{
262     \includegraphics[width=#1,page=\HsHlogoPage]{\HsHlogoPath}
263   }{
264     \ClassError{\HsHClassName}{\HsHlogoPath\space not found!}{
265       The HsH Logo is necessary for the titlepage! Try putting it next to your source file or u
266     }
267   }
268 }
```

### 5.4.3 Title matters

269 `\*article | report`)

The following commands relate to the creation of the titlepage. They implement how the user can define the different datafields.

First the `\@author` macro is set to `\@empty`, this makes it easier to handle it later.

270 `\let\@author\@empty`

`\title` We redefine the `\title` command to take an optional argument. This is stored in the additional `\@shorttitle` macro.

271 `\renewcommand{\title}[2][]{`

272 `\gdef\@title{#2}`

273 `\gdef\@shorttitle{#1}`

274 `}`

`\@shorttitle` This new macro stores a short version of the title. This will be used in places where the full title might overflow the available space.

275 `\def\@shorttitle{\@empty}`

`\matrikelnr` These macros set and store the matrikel-number (or set of numbers), which will be printed on the titlepage.

`\@matrikelnr`

276 `\newcommand{\matrikelnr}[1]{\gdef\@matrikelnr{#1}}`

277 `\def\@matrikelnr{\@empty}`

`\professor` These three macros-groups give options to the user to print people's names on the titlepage, who are relevant to the document, but not the author.

`\firstexaminer` 278 `\newcommand{\professor}[1]{\gdef\@professor{#1}}`

`\secondexaminer` 279 `\def\@professor{\@empty}`

`\@professor` 280 `\def\@professor{\@empty}`

`\@firstexaminer` 281 `\newcommand{\firstexaminer}[1]{\gdef\@firstexaminer{#1}}`

`\@secondexaminer` 282 `\def\@firstexaminer{\@empty}`

283 `\newcommand{\secondexaminer}[1]{\gdef\@secondexaminer{#1}}`

284 `\def\@secondexaminer{\@empty}`

`\keywords` The macro-group defines and holds keywords which describe the document. They are used when printing the abstract as well as in the PDF's meta-data.

`\@keywords`

284 `\newcommand{\keywords}[1]{\gdef\@keywords{#1}}`

285 `\def\@keywords{\@empty}`

286 `\*article | report`)

### 5.4.4 Commands for document writing

`\declarationofauthorship` The declaration of authorship is not relevant for the standalone variant.

287 `\*!standalone`)

The `pgffor` package is required to handle the loop over the list of authors.

288 `\RequirePackage{pgffor}`

Now the command is defined. It takes an optional argument which defaults to `b`.

289 `\newcommand{\declarationofauthorship}[1][b]{`

First the argument is passed and an error raised for invalid arguments. Passing in `b` will push the declaration to the bottom of the page and add a horizontal line. Passing `t` simply adds some space.

290 `\if#1b`

291 `\vspace*{\fill}`

292 `\hrule`

293 `\else\if#1t`

294 `\vspace*{2em}`

295 `\else`

296 `\ClassError{\HsHClassName}{Wrong Parameter for ‘\declarationofauthorship’}{`

297 `‘\string\declarationofauthorship’ only accepts ‘t’ and ‘b’ as parameters.`

298 `}`

299 `\fi\fi`

Now the actual declaration can be constructed. It uses the text from `\decofauthname` and `\decofauthtext`.

```
300 \vskip 3em
301 {\centering\bfseries\usekomafont{section}{\decofauthname}\par}
302 \vskip 3em
303 \decofauthtext\par
```

The last step is to loop over all authors by reading `\@author` and creating a signature box for each one. `\thanks` also needs to be cleared, as a footnote wouldn't make sense here.

```
304 \begingroup
305   \renewcommand{\thanks}{\sbox0}
306   \raggedleft
307   \foreach \tmp@ in \@author {
308     \if\tmp@empty\else
309       \hskip 1em \parbox{4cm}{
310         \vskip 4em
311         \hrule\vskip 4pt
312         \raggedleft\footnotesize\tmp@
313       }%
314     \fi
315   }\par
316 \endgroup
317 }
```

`\ifsingleauthor` To ensure `\decofauthtext` is properly spelled for one or multiple authors, we define a conditional that holds this information. Additionally we check the number of authors `\AtBeginDocument` and store it.

```
318 \newif\ifsingleauthor
319 \AtBeginDocument{
320   \begingroup
321     \newcount\count@
322     \count@=\z@
323     \@for\tmp@:=\@author\do{\advance\count@\@ne}
324     \ifnum\count@>\@ne\global\singleauthorfalse\else\global\singleauthortrue\fi
325   \endgroup
326 }
```

define the localised texts

```
327 \newcommand{\decofauthname}{Declaration of Authorship}
328 \newcaptionname{english}\decofauthname{Declaration of Authorship}
329 \newcaptionname{german,ngerman}\decofauthname{Selbstst\"andigkeitserkl\"arung}
330 %
331 \newcommand{\decofauthtext}{Language not supported!}
332 \newcaptionname{english}\decofauthtext{%
333   \ifsingleauthor{I}\else{We}\fi\space hereby certify that the work \ifsingleauthor{I}\else{we}
334   \ifsingleauthor am\else are\fi\space submitting is entirely of \ifsingleauthor{my}\else{our}
335   making except where otherwise indicated. \ifsingleauthor{I}\else{We}\fi\space
336   \ifsingleauthor{am}\else{are}\fi\space aware of regulations concerning plagiarism, including
337   disciplinary actions that may result from it. Any use of the works of any other author, in a
338   is properly acknowledged at their point of use.
339 }
340 \newcaptionname{german,ngerman}\decofauthtext{%
341   Hiermit best\{"a\}t\ifsingleauthor\else{n}\fi\space \ifsingleauthor ich\else wir\fi, dass
342   folgende Arbeit eigenst\{"a\}ndig von \ifsingleauthor{mir}\else{uns}\fi\space allein erstellt
343   unter Ber\{"u\}cksichtigung der zur Verf\{"u\}gung gestellten Aufgabenstellung sowie dem Arbeit
344   unter Angabe aller verwendeten Quellen erarbeitet wurde. Die Regelungen und Konsequenzen ein
345   Plagiats, inklusive disziplinarischer Ma\{"s\}nahmen, sind \ifsingleauthor{mir}\else{uns}\fi
346   bewusst. Insbesondere wurden alle Zitate und gedanklichen \{"U\}bernahmen als solche kenntlich
347 }
```

`\declarationAuthorship`

```
348 \def\declarationAuthorship{%
349   \ClassWarning{\HsHClassName}{%
```

```

350 Command \string\declarationAuthorship\space is deprecate.\MessageBreak
351 Replace it with \string\declarationofauthorship.
352 }%
353 \declarationofauthorship%
354 }
355 </!standalone>

```

## 5.4.5 Micalanious commands

### Utility commands

For writing absolut values, we provide the `\abs{ $\langle equ \rangle$ }` command, which puts groable, vertical bars on both sides of the equation inside.

```

356 \newcommand{\abs}[1]{\ensuremath{\left\vert\right.#1\right\vert}}

```

### Configuring mathmode-indices

The only hard requirements for documents writing on Hochschule Hannover is, that the indices in mathematic formulas must be typset in an upright ("steil") font, not the default kursive font. We configure this by first defining a macro to replace the default `\sb` macro. We can than assign this to `_`. For that to work we need to change its catcode to make it modifyable.

**Note:** You can allways use `\sb` to use the original behaviour for special cases.

```

357 \def\@subinrm#1{\sb{\mathrm{#1}}}
358 {\catcode'\_ =13 \global\let_=\@subinrm}

```

`\upsubscripts` Now we can define a command to activate this new behavior by changing the catcode of `_` to 13, which makes it a normal macro.

```

359 \newcommand\upsubscripts{\catcode'\_ =12}

```

`\normalsubscripts` To switch back we simply need to reset the catcode of `_` back to the original, which makes it a builidin operator with the default behavior.

```

360 \newcommand\normalsubscripts{\catcode'\_ =8}

```

## 5.5 Document setup

The following sets up the look and feel of the documents using this classe. All configuration and stylin is done here.

### 5.5.1 Fonts and text styling

```

361 \RequirePackage{lmodern}

```

### 5.5.2 Page layout

```

362 <!*standalone>
363 \areaset[current]{0.75\paperwidth}{0.8\paperheight}
364 \if@todos
365 \addtolength\paperwidth{5cm}
366 \addtolength\marginparwidth{5cm}
367 \fi
368 </!standalone>

```

### 5.5.3 Styling L<sup>A</sup>T<sub>E</sub>X default constucts

#### Floats

```

369 <!*standalone>

```

Floats should alsway prefere the *here* placement, than the *top* of the following page.

```

370 \renewcommand{\fps@figure}{h!t}
371 \renewcommand{\fps@table}{h!t}

```

Floats should be centered by default and the width of the caption box is limited.

```
372 \g@addto@macro\@floatboxreset\centering
373 \setcapwidth{0.8\textwidth}
```

The names of floating environments are redefined to show abbreviations only.

```
374 \defcaptionname{english}\figurename{Fig.}
375 \defcaptionname{german,ngerman}\figurename{Abb.}
376 \defcaptionname{english}\tablename{Tab.}
377 \defcaptionname{german,ngerman}\tablename{Tab.}
```

For subfigures we need to define a name used in autoreferences.

```
378 \AtBeginDocument{
379   \makeatletter
380   \@ifpackageloaded{subfigure}{
381     \let\subfigureautorefname\figureautorefname
382   }{}%
383   \makeatother
384 }
385 \!/standalone)
```

## Lists

For unordert liste the markers are redefined to look a littel nicer.

```
386 \renewcommand{\labelitemi}{\raisebox{.3ex}{\scalebox{0.7}{\bullet}}}}
387 \renewcommand{\labelitemii}{\raisebox{.3ex}{\scalebox{0.7}{\circ}}}}
388 \renewcommand{\labelitemiii}{\raisebox{.1ex}{-}}
389 \renewcommand{\labelitemiv}{\raisebox{-.1ex}{\scalebox{1.3}{\cdot}}}}
```

## Misc

We activate one of the commands defined above to make math-indices upright by default.

```
390 \upsubscripts
```

We want a ragged bottom instead of spreading the paragraphs over the page.

```
391 \raggedbottom
```

The ruler shown in the top and left margin with the draft option is removed.

```
392 \let\layercontentsmeasure\relax
```

### 5.5.4 Header and footer

```
393 (*article | report)
```

The header and footer are styled using the low-level commands provided by the KOMA-Script package `scrlayer-scrpage`.

```
394 \RequirePackage{scrlayer-scrpage}
395 \FamilyOptions{KOMA}{headsepline,singlespacing=true}
```

First we define the new pagestyle `HsHheadings`.

```
396 \newpagestyle{HsHheadings}{
397   {
398     \parbox[b]{\sls@headwidth}{
399       \LaTeXraggedright
400       \ifx\@shorttitle\@empty\@title\else\@shorttitle\fi
401     }%
402   }
403   {
404     \parbox[b]{\sls@headwidth}{
405       \LaTeXraggedleft
406       \leftmark
407     }%
408   }
409   {
410     \parbox[b]{.45\sls@headwidth}{
411       \LaTeXraggedright
412       \ifx\@shorttitle\@empty\@title\else\@shorttitle\fi
```



```

413 }%
414 \hfill
415 \parbox[b]{.45\sls@headwidth}{
416 \LaTeXraggedleft
417 \headmark
418 }%
419 }
420 (\textwidth,.1pt)
421 }{
422 {\pagemark}
423 {\hfill\pagemark}
424 {\hfill\pagemark}
425 }

```

Then all generic settings are applied:

```

426 \clearpairofpagestyles
427 \ofoot*{\pagemark}
428 \pagestyle{HsHheadings}
429 <article>\automark{section}
430 <report>\automark{chapter}
431 <report>\renewcommand*{\chapterpagestyle}{HsHheadings}
432 </article|report>

```

### 5.5.5 Titlepage

`\maketitle` The definition of `\maketitle` is mostly taken from the source-code of the KOMA-Script parentclass, but was modified to create the desired style.

```

433 <*article|report>
434 \newcommand{\professortext}{Professor}
435 \newcommand{\firstexaminertext}{First examiner}
436 \newcommand{\secondexaminertext}{Second examiner}
437 \newcaptionname{english}\professortext{Professor}
438 \newcaptionname{english}\firstexaminertext{First examiner}
439 \newcaptionname{english}\secondexaminertext{Second examiner}
440 \newcaptionname{german,ngerman}\professortext{Professor(in)/Lehrbeauftragte(r)}
441 \newcaptionname{german,ngerman}\firstexaminertext{Erstpr{"u}fer(in)}
442 \newcaptionname{german,ngerman}\secondexaminertext{Zweitpr{"u}fer(in)}
443 \newtoks \@tabtoks
444 \newcommand\addtabtoks[1]{\global\@tabtoks\expandafter{\the\@tabtoks#1}}
445 \newcommand\eaddtabtoks[1]{\edef\mytmp{#1}\expandafter\addtabtoks\expandafter{\mytmp}}
446 % %%\newcommand*\resettabtoks{\global\@tabtoks{}}
447 \newcommand*\printtabtoks{\the\@tabtoks}
448 \addtokomafont{publishers}{\normalsize}
449 \g@addto@macro\titlepage{\singlespacing}
450 %
451 <article>\renewcommand\maketitle[1][c]{
452 <report>\renewcommand\maketitle[1][l]{
453 \expandafter\ifnum \cscname scr@v@3.12\endcscname>\scr@compatibility\relax
454 \else
455 \def\and{%
456 \end{tabular}
457 \hskip 1em \@plus.17fil
458 \begin{tabular}[t]{c}%
459 }
460 \fi
461 <*article>
462 \par
463 \ifx\@uppertitleback\@empty\else
464 \ClassWarning{KOMAClassName}{%
465 non empty \string\uppertitleback\space ignored
466 by \string\maketitle\MessageBreak
467 in 'titlepage=false' mode%
468 }
469 \fi
470 \ifx\@lowertitleback\@empty\else

```

```

471 \ClassWarning{\KOMAClassName}{%
472     non empty \string\lowertitleback\space ignored
473     by \string\maketitle\MessageBreak
474     in 'titlepage=false' mode%
475 }
476 \fi
477 \end{article}
478 \begin{report} \begin{titlepage}
479 \begin{article} \begin{group
480     \let\@param#1
481     \ifx\@param\@empty
482         \ClassError{\myClassName}{\maketitle\space with empty option}{
483             \maketitle[] has been called (with an empty parameter), this doesn't work.
484             Use \maketitle instead.
485         }
486     \fi
487 \end{group}
488 \if@titlepageiscoverpage
489     \edef\titlename@restore{
490         \noexpand\endgroup
491         \noexpand\global\noexpand\@colht\the\@colht
492         \noexpand\global\noexpand\@colroom\the\@colroom
493         \noexpand\global\vsizethe\vsizethe
494         \noexpand\global\noexpand\@titlepageiscoverpagefalse
495         \noexpand\let\noexpand\titlename@restore\noexpand\relax
496     }
497     \begin{group
498         \topmargin=\dimexpr \coverpagetopmargin-1in\relax
499         \oddsidemargin=\dimexpr \coverpageleftmargin-1in\relax
500         \evensidemargin=\dimexpr \coverpageleftmargin-1in\relax
501         \textwidth=\dimexpr
502         \paperwidth-\coverpageleftmargin-\coverpagerightmargin\relax
503         \textheight=\dimexpr
504         \paperheight-\coverpagetopmargin-\coverpagebottommargin\relax
505         \headheight=0pt
506         \headsep=0pt
507         \footskip=\baselineskip
508         \colht=\textheight
509         \colroom=\textheight
510         \vsizethe\textheight
511         \columnwidth=\textwidth
512         \hsizethe\columnwidth
513         \linewidth=\hsizethe
514     \else
515         \let\titlename@restore\relax
516     \fi
517     \let\footnotesize\small
518     \let\footnoterule\relax
519     \let\footnote\thanks
520 \end{group}
521 \end{article} \let\titlename@restore\relax
522 \renewcommand*\thefootnote{\@fnsymbol\c@footnote}%
523 \let\oldmakefnmark\makefnmark
524 \renewcommand*\@makefnmark{\rlap{\oldmakefnmark}}%
525 \end{article} \next@tdpage
526 \ifx\@extratitle\@empty
527 \end{article} \ifx\@frontispiece\@empty\else \mbox{}\fi
528 \end{report}
529 \ifx\@frontispiece\@empty\else
530     \if@twoside\mbox{}\fi\next@tdpage\fi
531     \noindent\@frontispiece\next@tdpage
532 \fi
533 \end{report}

```

```

534 \else
535 <article> \@makeextratitle
536 <*report>
537 \noindent\@extratitle
538 \ifx\@frontispiece\@empty
539 \else
540 \next@tpage
541 \noindent\@frontispiece
542 \fi
543 \next@tdpage
544 </report>
545 \fi
546 <*article>
547 \ifx\@frontispiece\@empty
548 \ifx\@extratitle\@empty\else\next@tdpage\fi
549 \else
550 \next@tpage
551 \@makefrontispiece
552 \next@tdpage
553 \fi
554 \global\@topnum=\z@
555 </article>
556 \setparsizes{\z@}{\z@}{\z@\@plus 1fil}\par@updaterelative
557 \vspace*{1cm}
558 \begin{minipage}[t]{\textwidth}%
559 \ifx\@titlehead\@empty \else
560 \usekomafont{titlehead}{\@titlehead}%
561 \fi
562 \hfill
563 % image with referencepoint in lower left corner:
564 \raisebox{0pt}[\ht\strutbox][\dp\strutbox]{\includeHsHlogohere}
565 \end{minipage}
566 \raisebox{10pt}{\rule{\textwidth}{0.5pt}}
567 \null
568 <article> \vskip 2em
569 <report> \vfill
570 \begin{group}
571 \if\@param c\centering\fi
572 \if\@param r\raggedleft\fi
573 \ifx\@subject\@empty\else
574 {\usekomafont{subject}{\@subject\par}}
575 <article> \vskip 1.5em
576 <report> \vskip 3em
577 \fi
578 {\usekomafont{title}{\huge\@title\par}}
579 <article> \vskip .5em
580 <report> \vskip 1em
581 {\ifx\@subtitle\@empty\else\usekomafont{subtitle}{\@subtitle\par}\fi}
582 <article|report> \vskip 4em
583 {\ifx\@matrikelnr\@empty
584 \if\@author\@empty\else\usekomafont{author}{
585 \parbox{\dimexpr\linewidth}{
586 \if\@param c\centering\fi
587 \if\@param r\raggedleft\fi
588 \@author
589 }
590 }\fi
591 \else
592 \if\@author\@empty\else
593 % sneaky comma needed after \@matrikelnr to deal with single item lists
594 \foreach \x [count=\i,evaluate=\i as \y using {\@matrikelnr,[\i-1]}] in \@author {
595 \usekomafont{author}{
596 \def\arraystretch{1.2}

```

```

597         \if@param l\begin{tabular}{@{}l l}\printtabtoks\end{tabular}\fi
598         \if@param c\begin{tabular}{l l}\printtabtoks\end{tabular}\fi
599         \if@param r\begin{tabular}{r r@{}}\printtabtoks\end{tabular}\fi
600     }%
601     \fi
602     \fi}
603 <article>         \vskip 1em
604 <report>         \vskip 1.5em
605     {\usekomafont{date}{\@date\par}}
606 <article>         \vskip 1em
607 <report>         \vskip \z@ \@plus3fill
608     \usekomafont{publishers}{
609         \def\arraystretch{1.2}
610         \if@param l\begin{tabular}{@{}l l}\fi
611         \if@param c\begin{tabular}{l l}\fi
612         \if@param r\begin{tabular}{r r@{}}\fi
613         \if@professor\@empty\else\textbf{\professortext:}&\@professor\\\fi
614         \if@firstexaminer\@empty\else\textbf{\firstexaminertext:}&\@firstexaminer\\\fi
615         \if@secondexaminer\@empty\else\textbf{\secondexaminertext:}&\@secondexaminer\\\fi
616     \end{tabular}
617 }
618 <*article>
619     \ifx\@dedication\@empty\else
620         \vskip 2em
621         {\usekomafont{dedication}{\@dedication \par}}%
622     \fi
623 </article>
624     \par
625     \endgroup
626 <article>         \vskip 2em
627 <report>         \vskip 3em
628 <article>         \ifx\titlepagestyle\@empty\else\thispagestyle{\titlepagestyle}\fi
629     \@thanks\global\let\@thanks\@empty
630 <*report>
631     \vfill\null
632     \if@twoside
633         \@tempwatrue
634         \expandafter\ifnum \@nameuse{scr@v@3.12}>\scr@compatibility\relax
635         \else
636             \ifx\@uppertitleback\@empty\ifx\@lowertitleback\@empty
637                 \@tempwafalse
638             \fi\fi
639         \fi
640         \if@tempswa
641             \next@tpage
642             \begin{minipage}[t]{\textwidth}
643                 \@uppertitleback
644             \end{minipage}\par
645             \vfill
646             \begin{minipage}[b]{\textwidth}
647                 \@lowertitleback
648             \end{minipage}\par
649             \@thanks\global\let\@thanks\@empty
650         \fi
651     \else
652         \ifx\@uppertitleback\@empty\else
653             \ClassWarning{KOMAClassName}{%
654                 non empty \string\uppertitleback\space ignored
655                 by \string\maketitle\MessageBreak
656                 in 'twoside=false' mode%
657             }
658         \fi
659         \ifx\@lowertitleback\@empty\else

```

```

660         \ClassWarning{\KOMAClassName}{%
661             non empty \string\lowertitleback\space ignored
662             by \string\maketitle\MessageBreak
663             in 'twoside=false' mode%
664         }
665     \fi
666 \fi
667 \ifx\@dedication\@empty
668 \else
669     \next@tdpage\null\vfill
670     {\centering\usekomafont{dedication}{\@dedication \par}}%
671     \vskip \z@ \@plus3fill
672     \@thanks\global\let\@thanks\@empty
673     \cleardoubleemptypage
674 \fi
675 \ifx\titlepage@restore\relax\else\clearpage\titlepage@restore\fi
676 \</report>
677 \<article> \endgroup
678 \<report> \end{titlepage}
679 \setcounter{footnote}{0}
680 \expandafter\ifnum \csname scr@v3.12\endcsname>\scr@compatibility\relax
681 \let\thanks\relax
682 \let\maketitle\relax
683 \let\@maketitle\relax
684 \global\let\@thanks\@empty
685 \global\let\@author\@empty
686 \global\let\@date\@empty
687 \global\let\@title\@empty
688 \global\let\@subtitle\@empty
689 \global\let\@extratitle\@empty
690 \global\let\@frontispiece\@empty
691 \global\let\@titlehead\@empty
692 \global\let\@subject\@empty
693 \global\let\@publishers\@empty
694 \global\let\@uppertitleback\@empty
695 \global\let\@lowertitleback\@empty
696 \global\let\@dedication\@empty
697 \global\let\@matrikelnr\@empty
698 \global\let\@prof\@empty
699 \global\let\author\relax
700 \global\let\title\relax
701 \global\let\extratitle\relax
702 \global\let\titlehead\relax
703 \global\let\subject\relax
704 \global\let\publishers\relax
705 \global\let\uppertitleback\relax
706 \global\let\lowertitleback\relax
707 \global\let\dedication\relax
708 \global\let\date\relax
709 \global\let\matrikelnr\relax
710 \global\let\professor\relax
711 \fi
712 \global\let\and\relax
713 }
714 \</article | report>

```

## 6 Change History

v1.00

General: Initial Version. Official first  
release . . . . . 1

v2.00

General: This version changes the  
default build-system to latexmk . . . 1

## v2.01

\declarationAuthorship: Deprecate  
  \declarationAuthorship, as it got  
  replaced by  
  \declarationofauthorship . . . . . 14

## v3.00

General: added typelec package to get  
  better font-scaling . . . . . 10  
  removed the inputenc package, as  
  utf8 is now default . . . . . 10