

fhnwreport: PDF-L^AT_EXclass for articles, reports, and theses

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```
1 \NeedsTeXFormat{LaTeX2e}[1995/12/01]
2 \ProvidesClass{fhnwreport}[2018/05/06 v2.5 PDF-Latex class for FHNW reports]
3 \LoadClass{article}
```

This packages requires several other packages that we now load: `geometry` to set the page layout, `calc` for arithmetics within arguments, `times` such that the font Times is used, `graphicx` for having graphics.

```
4 \RequirePackage{geometry}
5 \RequirePackage{calc}
6 \RequirePackage{times}
7 \RequirePackage{graphicx}
```

1 Page Layout

The standard page stlye is two-sided; if you want it one-sided, you have to write `\geometry{twoside=false}` in your own document.

```
8 \geometry{a4paper,twoside=true}
9 \geometry{width=160mm,height=241mm,top=32mm,outer=25mm}
10 \geometry{footskip=19mm,headsep=13mm}
```

<code>\CapFont</code>	The following macros define, in this order, the fonts used for captions, caption
<code>\CapNumFont</code>	lables, section titles, section numbers, chapter titles, the document title, the page
<code>\SecFont</code>	headings, and the <code>background</code> environment, and the fonts used on the official title
<code>\SecNumFont</code>	page.
<code>\ChapFont</code>	
<code>\TitleFont</code>	11 <code>\newcommand{\CaptionFont}{\em}</code>
<code>\HeaderFont</code>	12 <code>\newcommand{\SecFont}{\sf\bfseries}</code>
<code>\BackgroundFont</code>	13 <code>\newcommand{\SecNumFont}{\sf\bfseries}</code>
	14 <code>\newcommand{\ChapFont}{\sf\bfseries}</code>
	15 <code>\newcommand{\TitleFont}{\sf\bfseries}</code>
	16 <code>\newcommand{\HeaderFont}{\sf\small}</code>
	17 <code>\newcommand{\BackgroundFont}{\em}</code>
	18 <code>\newcommand{\DTfont@author}{\sf\bfseries}</code>
	19 <code>\newcommand{\DTfont@normal}{\sf}</code>

```

20 \newcommand{\DTfont@series}{\sf\bfseries}
21 \newcommand{\DTfont@title}{\sf\bfseries}

\maketitle

22 \renewcommand\maketitle{\par
23   \begingroup
24     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
25     \def\@makefnmark{\rlap{\@textsuperscript{\normalfont\@thefnmark}}}%
26     \long\def\@makefntext##1{\parindent 1em\noindent
27       \hb@xt@1.8em{%
28         \hss\@textsuperscript{\normalfont\@thefnmark}}##1}%
29     \if@twocolumn
30       \ifnum \col@number=\@ne
31         \@maketitle
32       \else
33         \twocolumn[\@maketitle]%
34       \fi
35     \else
36       \newpage
37       \global\@topnum\z@    % Prevents figures from going at top of the title page.
38       \@maketitle
39     \fi
40     \thispagestyle{empty}\@thanks
41   \endgroup
42   \setcounter{footnote}{0}%
43   \global\let\thanks\relax
44   \global\let\maketitle\relax
45   \global\let\@maketitle\relax
46   \global\let\@thanks\@empty
47   \global\let\@author\@empty
48   \global\let\@date\@empty
49   \global\let\@title\@empty
50   \global\let\title\relax
51   \global\let\author\relax
52   \global\let\date\relax
53   \global\let\and\relax
54 }

```

The maketitle function assumes that there is a file called fhwnwlogo.pdf in the working directory. Choose the one you need.

```

\@maketitle

55 \def\@maketitle{%
56   \newpage
57   \null
58   \setlength{\unitlength}{1cm}%
59   \begin{picture}(0,0)
60     \linethickness{0.025mm}
61     \put(-0.85,2.2){\mbox{\includegraphics[height=12mm]{fhwnwlogo.pdf}}}
62   \end{picture}

```

```

63 \par%
64 \vskip 2em%
65 \begin{center}%
66 \let \footnote \thanks
67 {\LARGE \@title \par}%
68 \vskip 1.5em%
69 {\large
70 \lineskip .5em%
71 \begin{tabular}[t]{c}%
72 \author
73 \end{tabular}\par}%
74 \vskip 1em%
75 {\large \@date}%
76 \end{center}%
77 \par
78 \vskip 1.5em}

```

`\noparskip` This class uses the European book layout, i.e., a layout that has no paragraph indentations, but some paragraph skip. This is sometimes not wanted in tables of contents, so we provide a macro that makes it possible to produce tables of contents with tight vertical spacing by writing something like `{\noparskip \tableofcontents}`.

```

79 \newcommand{\noparskip}{\parskip=\z@ \@plus\z@ \@minus\z@}

```

Now come the details of the paragraph layout. If `raggedright` is not used, `\TextAlignment` must be set anyway, and `\parindent` must be set to zero. (The command `\RaggedRight` does that too). The text alignment command is issued at the begin of the document, and the `parskip` is also set to a reasonable, non-zero value. Finally, clubs and widows are punished hard.

```

80 \ifx\TextAlignment\undefined
81 \newcommand{\TextAlignment}{\relax}
82 \parindent=0pt
83 \else\fi
84 \AtBeginDocument{\TextAlignment}
85 \parskip=1.6ex \@plus 0.4ex \@minus 0.4ex
86 \widowpenalty 10000
87 \clubpenalty 10000
88 \@clubpenalty 10000

```

Lists are generally defined with tighter vertical spacing, the following was adapted from `book.cls`.

```

89 \def\@listi{\leftmargin\leftmargini
90 \parsep \z@ \@plus2\p@ \@minus\z@
91 \topsep \z@ \@plus2\p@ \@minus\z@
92 \itemsep\z@ \@plus2\p@ \@minus\z@}
93 \let\@listI\@listi
94 \@listi
95 \def\@listii{\leftmargin\leftmarginii
96 \labelwidth\leftmarginii

```

```

97 \advance\labelwidth-\labelsep
98 \topsep \z@ \@plus2\p@ \@minus\z@
99 \parsep \z@ \@plus\p@ \@minus\z@
100 \itemsep \parsep}
101 \def\@listiii{\leftmargin\leftmarginiii
102 \labelwidth\leftmarginiii
103 \advance\labelwidth-\labelsep
104 \topsep \z@ \@plus\p@ \@minus\z@
105 \parsep \z@ \@minus\z@
106 \partopsep \z@ \plus\z@ \@minus\z@
107 \itemsep \topsep}
108 \def\@listiv {\leftmargin\leftmarginiv
109 \labelwidth\leftmarginiv
110 \advance\labelwidth-\labelsep}
111 \def\@listv {\leftmargin\leftmarginv
112 \labelwidth\leftmarginv
113 \advance\labelwidth-\labelsep}
114 \def\@listvi {\leftmargin\leftmarginvi
115 \labelwidth\leftmarginvi
116 \advance\labelwidth-\labelsep}

```

We use font size 11pt, and nothing else, thus it is hard-wired. The following is adapted from bk11.clo.

```

117 \renewcommand\normalsize{%
118   \@setfontsize\normalsize\@xpt{13.6}%
119   \abovedisplayskip 11\p@ \@plus3\p@ \@minus6\p@
120   \abovedisplayshortskip \z@ \@plus3\p@
121   \belowdisplayshortskip 6.5\p@ \@plus3.5\p@ \@minus3\p@
122   \belowdisplayskip \abovedisplayskip
123   \let\@listi\@listI}
124 \normalsize
125 \renewcommand\small{%
126   \@setfontsize\small\@xpt\@xipt
127   \abovedisplayskip 10\p@ \@plus2\p@ \@minus5\p@
128   \abovedisplayshortskip \z@ \@plus3\p@
129   \belowdisplayshortskip 6\p@ \@plus3\p@ \@minus3\p@
130   \def\@listi{\leftmargin\leftmargini
131     \topsep \z@ \@plus2\p@ \@minus\z@
132     \parsep \z@ \@plus\p@ \@minus\z@
133     \itemsep \parsep}%
134   \belowdisplayskip \abovedisplayskip
135 }
136 \renewcommand\footnotesize{%
137   \@setfontsize\footnotesize\@ixpt{11}%
138   \abovedisplayskip 8\p@ \@plus2\p@ \@minus4\p@
139   \abovedisplayshortskip \z@ \@plus\p@
140   \belowdisplayshortskip 4\p@ \@plus2\p@ \@minus2\p@
141   \def\@listi{\leftmargin\leftmargini
142     \topsep \z@ \@plus\p@ \@minus\z@
143     \parsep \z@ \@plus\p@ \@minus\z@

```

```

144         \itemsep \parsep}%
145     \belowdisplayskip \abovedisplayskip
146 }
147 \renewcommand\scriptsize{\@setfontsize\scriptsize\@viipt{9.5}}
148 \renewcommand\tiny{\@setfontsize\tiny\@vpt\@viipt}
149 \renewcommand\large{\@setfontsize\large\@xiipt{14}}
150 \renewcommand\Large{\@setfontsize\Large\@xivpt{18}}
151 \renewcommand\LARGE{\@setfontsize\LARGE\@xviipt{22}}
152 \renewcommand\huge{\@setfontsize\huge\@xxpt{25}}
153 \renewcommand\Huge{\@setfontsize\Huge\@xxvpt{30}}

```

2 Page Headings, captions, etc.

The running heads are empty in this page style.

```

154 \def\ps@headings{%
155     \let\@oddfoot\@empty\let\@evenfoot\@empty
156     \def\@evenhead{\thepage\hfil\slshape\leftmark}%
157     \def\@oddhead{\slshape\rightmark\hfil\thepage}%
158     \let\@mkboth\markboth
159     \def\sectionmark##1{%
160         \markboth {\MakeUppercase{
161             \ifnum \c@secnumdepth >\z@
162                 \thesection\quad
163                 \fi
164             ##1}}{}}%
165     \def\subsectionmark##1{%
166         \markright {%
167             \ifnum \c@secnumdepth >\@ne
168                 \thesubsection\quad
169                 \fi
170             ##1}}
171 \pagestyle{headings}

```

Figures, tables and equations are counted as section.number, i.e., the first figure in Section 2 would get the number 2.1

```

172 \usepackage{chngcntr}
173 \counterwithin{figure}{section}
174 \counterwithin{table}{section}
175 \counterwithin{equation}{section}

```

3 Sections, subsections, ...

Use a different font for sections: The following gives a normal heading with white space above and below the section heading, the title set in `\SecFont\Large`, and no indentation on the first paragraph.

```

176 \renewcommand\section{\@startsection {section}{1}{\z@}%
177     {-2.1ex \@plus -.6ex \@minus -.12ex}%

```

```

178 {1.38ex \@plus.12ex}%
179 {\SecFont\Large}}
180 \renewcommand\subsection{\@startsection{subsection}{2}{\z@}%
181 {-1.95ex\@plus -.6ex \@minus -.12ex}%
182 {.9ex \@plus .12ex}%
183 {\SecFont\large}}
184 \renewcommand\subsubsection{\@startsection{subsubsection}{3}{\z@}%
185 {-1.95ex\@plus -.6ex \@minus -.12ex}%
186 {.9ex \@plus .12ex}%
187 {\SecFont\normalsize}}

Paragraphs are never numbered; they just make their Argument appear in the
section font, with a line break after it.

188 \renewcommand{\paragraph}[1]{\par\noindent{\SecFont\normalsize #1}\}

No trailing period in the section number

189 \def\@secntformat#1{\csname the#1\endcsname\quad}

The bibliography should be numbered and appear in the table of contents

190 \usepackage[numbib,nottoc]{tocbibind}

```

4 Bibliohraphy setup

This is presently done in the document itself.

5 Hyperrefs

Make hyperrefs work, but invisible.

```

191 \RequirePackage{hyperref,color}
192 \hypersetup{bookmarksnumbered={true},hidelinks}

```

6 How to treat figures and captions

The bottomfraction set to 0.7 makes it easier to place figures at the bottom of the page.

```

193 \RequirePackage{caption}
194 \captionsetup{margin=10pt,font=small,labelfont=bf}
195 \setlength\floatsep {24\p@ \@plus 2\p@ \@minus 4\p@}
196 \setlength\textfloatsep{30\p@ \@plus 2\p@ \@minus 4\p@}
197 \renewcommand{\bottomfraction}{0.7}

```

7 Conclusion