

polsl-msth — Silesian University of Technology, Master of Science thesis document class*

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Abstract

The polsl-msth is a LaTeX document class designed for Silesian University of Technology Master of Science Thesis.

1 Usage

2 Implementation

The polsl-msth class is based on the book class.

```
1 <*class>
2 \LoadClass[a4paper,twoside,openright,12pt]{book}
3 \linespread{1.3}
```

The babel package is used for internationalization.

```
4 \RequirePackage{babel}
```

2.1 Page layout

Configure margins, 2.5 cm.

```
5 \setlength{\textwidth}{\paperwidth}
6 \setlength{\textheight}{\paperheight}
7 \setlength{\hoffset}{-0.04cm}
8 \setlength{\voffset}{-0.04cm}
9 \addtolength{\textwidth}{-5cm}
10 \addtolength{\textheight}{-5cm}
11 \setlength{\topmargin}{0cm}
12 \setlength{\headheight}{0cm}
13 \setlength{\headsep}{0cm}
14 \setlength{\marginparsep}{0cm}
15 \setlength{\marginparwidth}{0cm}
```

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```

16 \setlength{\footskip}{0cm}
17 \setlength{\oddsidemargin}{0.5cm}
18 \setlength{\evensidemargin}{0cm}
19 \addtolength{\textwidth}{-0.5cm}
20 \setlength{\headheight}{12pt}
21 \setlength{\headsep}{19pt}
22 \addtolength{\textheight}{-\the\headheight}
23 \addtolength{\textheight}{-\the\headsep}

```

2.2 Class configuration

2.2.1 Internationalization

```

24 \def\authordesc{Author}
25 \def\supervisordesc{Supervisor}
26 \def\consultantdesc{Consultant}
27 \def\msthesisname{Master Thesis}
28 \def\engthesname{Final Project}
29 \def\universitydefault{Silesian University of Technology}
30 \def\facultydefault{Faculty of Automatic Control, Electronics and Computer Science}
31 \def\@date{\ifcase\month\or
32 January\or February\or March\or April\or May\or June\or
33 July\or August\or September\or October\or November\or December\fi
34 \number\year}
35 \DeclareOption{polish}{%
36 \frenchspacing%
37 \def\authordesc{Autor}
38 \def\supervisordesc{Kieruj\k{a}cy prac\k{a}}%
39 \def\consultantdesc{Konsultant}
40 \def\msthesisname{Praca dyplomowa magisterska}
41 \def\engthesname{Praca dyplomowa in\zynierska}
42 \def\universitydefault{Politechnika \Sl{k{a}ska}
43 \def\facultydefault{Wydzia\l\ Automatyki, Elektroniki i-Informatyki}
44 \def\@date{%
45 \ifcase\month\or
46 Stycze\'n\or Luty\or Marzec\or Kwiecie\'n\or Maj\or Czerwiec\or Lipiec\or
47 Sierpie\'n\or Wrzesie\'n\or Pa\'zdzienik\or Listopad\or Grudzie\'n\fi
48 \space\number\year%
49 }
50 }

```

2.2.2 Thesis type selection

```

51 \def\thesisname{\msthesisname}
52 \DeclareOption{engineer}{
53 \def\thesisname{\engthesname}
54 }
55 \DeclareOption{master}{
56 \def\thesisname{\msthesisname}
57 }
58 \ProcessOptions*

```

```
59 </class>
```

2.2.3 Configuration example

The user document should include polsl-msth document class and declare language (english or polish) and thesis type (master or engineer).

```
60 <*example>
61 %% Thesis language: english or polish
62 %% Thesis type: master or engineer
63 \documentclass[polish,master]{polsl-msth}
64 </example>
```

2.3 Font configuration

Use lmodern font for the thesis

```
65 <*class>
66 \RequirePackage[T1]{fontenc}
67 \RequirePackage{lmodern}
68 </class>
```

We need graphicx for the logo

```
69 <*class>
70 \RequirePackage{graphicx}
71 </class>
```

2.4 Encoding configuration

This document is written in the ISO-8859-2 encoding.

```
72 <*example>
73 %% set document encoding
74 \usepackage[latin2]{inputenc}
75 </example>
```

2.5 Title page

`\university` The `\university` macro defines a university. No example is provided, because this class is designed for Silesian University of Technology.

```
76 <*class>
77 \def\university#1{\gdef\@university{#1}}
78 \def\@university{\universitydefault}
79 </class>
```

`\faculty` The `\faculty` macro defines a faculty. No example is provided, because this class is designed for Faculty of Automatic Control, Electronics and Computer Science.

```
80 <*class>
81 \def\faculty#1{\gdef\@faculty{#1}}
82 \def\@faculty{\facultydefault}
83 </class>
```

Declare the MSc thesis author. The `\author` macro is provided by the book class.

```
84 \example
85 %% thesis author
86 \author{Jan Kowalski}
87 \endexample
```

`\supervisor` The `\supervisor` macro defines a MSc thesis supervisor.

```
88 \class
89 \def\supervisor#1{\gdef\@supervisor{#1}}
90 \def\@supervisor{\@latex@warning@no@line{No \noexpand\supervisor given}}
91 \endclass
```

Declare the MSc thesis supervisor

```
92 \example
93 %% thesis supervisor
94 \supervisor{Jan Kowalski}
95 \endexample
```

`\consultant` The `\consultant` macro defines a MSc thesis consultant. The consultant is optional.

```
96 \class
97 \def\consultant#1{\gdef\@consultant{#1}}
98 \endclass
```

Declare the MSc thesis consultant.

```
99 \example
100 %% thesis consultant, optional
101 %% \consultant{Jan Kowalski}
102 \endexample
```

Declare the MSc thesis title. The `\author` macro is provided by the book class.

```
103 \example
104 %% Thesis title
105 \title{Przykład wykorzystania klasy polsl-msth}
106 \endexample
```

`\maketitle` The `\maketitle` generates a title page.

```
107 \class
108 \renewcommand\maketitle{
109   \begingroup
110     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
111     \def\@makefnmark{\rlap{\@textsuperscript{\normalfont\@thefnmark}}}%
112     \long\def\@makefntext##1{\parindent 1em\noindent
113       \hb@xt@1.8em{%
114         \hss\@textsuperscript{\normalfont\@thefnmark}}##1}%
115     \newpage
116     \global\@topnum\z@    % Prevents figures from going at top of page.
117     \maketitle
```

This page gets a empty layout. We call `\@thanks` to produce the footnotes.

```
118 \thispagestyle{empty}\@thanks
```

Now we can close the group, reset the counter, disable `\thanks`, `\maketitle` and `\@maketitle` and save some storage space by emptying the internal information macros.

```
119 \endgroup
120 \setcounter{footnote}{0}%
121 \global\let\thanks\relax
122 \global\let\maketitle\relax
123 \global\let\@maketitle\relax
124 \global\let\@thanks\@empty
125 \global\let\@author\@empty
126 \global\let\@supervisor\@empty
127 \global\let\@faculty\@empty
128 \global\let\@university\@empty
129 \global\let\title\relax
130 \global\let\author\relax
131 \global\let\supervisor\relax
132 \global\let\faculty\relax
133 \global\let\university\relax
134 \global\let\date\relax
135 \global\let\and\relax
136 }
137 </class>
```

`\@maketitle` This macro takes care of formatting the title information when we have no separate title page.

We always start a new page.

```
138 <*class>
139 \newcommand{\@bigfontsc}{\fontfamily{phv}\fontsize{18}{18}\bfseries\scshape\selectfont}
140 \newcommand{\@bigfont}{\fontfamily{phv}\fontsize{18}{18}\selectfont}
141 \newcommand{\@halfourty}{\fontfamily{phv}\fontsize{14}{14}\selectfont}
142 \def\@maketitle{%
143 \newpage%
144 \let\footnote\thanks%
145 \vbox to 22.910474truecm{% 24 cm minus header
146 \vbox to 17.910474truecm{% 19 cm minus header
147 \vbox to 32mm{
148 \vfill%
149 \centerline{\includegraphics[width=29mm]{pi}}
150 }
151 \vspace{1cm}
152 \begin{center}
153 \@bigfontsc \@university
154 \end{center}
155 \begin{center}
156 \@bigfontsc \@faculty
157 \end{center}
```

```

158 \vfil
159 \begin{center}
160 \@bigfont \thesisname
161 \end{center}
162 \vfil
163 {
164 \setlength{\baselineskip}{1.5\baselineskip}
165 \begin{center}
166 {\@helfourty \@title\par}
167 \end{center}
168 }
169 \vfil
170 }%
171 \noindent\vbox{%
172 \hbox{{\@helfourty\authordesc:} {\@helfourty \@author}}
173 \vspace{12pt}%
174 \hbox{{\@helfourty\supervisordesc:} {\@helfourty \@supervisor}}
175 \ifx\@consultant\undefined\else{
176 \vspace{12pt}%
177 \hbox{{\@helfourty\consultantdesc:} {\@helfourty \@consultant}}
178 }
179 \fi
180 }
181 \vfill%
182 }
183 \centerline{\@helfourty Gliwice, \@date}
184 }
185 \end{class}

```

`\chapter` Change `\chapter` macro to use empty style on first page of chapter.

```

186 \class
187 \renewcommand\chapter{\if@openright\cleardoublepage\else\clearpage\fi
188 \thispagestyle{empty}%
189 \global\@topnum\z@
190 \@afterindentfalse
191 \secdef\@chapter\@schapter}
192 \end{class}

```

Add title page to example.

```

193 \example
194 \begin{document}
195 \frontmatter
196 \maketitle
197 \end{example}

```

2.6 Table of contents and lists

```

198 \example
199 \tableofcontents

```

```

200 \listoftables
201 \listoffigures
202 </example>
203 % \end{macrocode}
204 % \subsection{Example}
205 % \begin{macrocode}
206 <*example>
207 \mainmatter
208 \chapter{Wprowadzenie}
209 Dokument ten opisuje wykorzystanie klasy polsl-msth do przygotowania
210 pracy magisterskiej na Wydziale Automatyki, Elektroniki i Informatyki
211 Politechniki Śląskiej. Sam dokument jest
212 też zgodny z szablonem pracy magisterskiej.
213
214 W rozdziale \ref{zalecenia} znajdują się zalecenia odnośnie formatowania
215 pracy.
216
217 \chapter{Zalecenia\label{zalecenia}}
218 Pierwszy akapit rozdziału, sekcji lub podsekcji powinien rozpoczynać
219 się bez wcięcia. Wszystkie kolejne powinny mieć wcięcie skonfigurowane
220 w klasie.
221
222 Opis rysunków powinien znajdować się pod rysunkiem jak w przypadku
223 rysunku \ref{pi}.
224 \begin{figure}[hbt]
225 \centerline{\includegraphics[width=1in]{pi}}
226 \caption{Logo Politechniki Śląskiej.\label{pi}}
227 \end{figure}
228
229 Opis tabel powinien znajdować się nad tabelą jak w przypadku
230 tabeli \ref{tab}.
231 \begin{table}[hbt]
232 \caption{Przykładowa tabela.\label{tab}}
233 \centerline{\begin{tabular}{|c|c|}
234 \hline
235 1 & 2\\
236 \hline
237 3 & 4\\
238 \hline
239 \end{tabular}}
240 \end{table}
241
242 Równania powinny być numerowane jak równanie \ref{entropy}.
243 \begin{equation}
244 H(X) = -\sum_{i=0}^n P(x_i) \log_2 P(x_i).\label{entropy}
245 \end{equation}
246 </example>
247 <*example>
248 \end{document}

```

249 `\example`

2.7 End of class

250 `*class`

251 `\endinput`

252 `\class`

Change History

v0.0.0

General: First release 1

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