

# ThuThesis

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v5.2.2 (2016/4/25)

Abstract

- 1. L<sup>A</sup>T<sub>E</sub>X Project Public License
- 2. “ ”
- 3.
- 4. L<sup>A</sup>T<sub>E</sub>X Project Public License

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1

ThuThesis (Tsinghua University L<sup>A</sup>T<sub>E</sub>X Thesis Template)

L<sup>A</sup>T<sub>E</sub>X

3.1

ThuThesis

2

2.1

ThuThesis      T<sub>E</sub>X

```
$ texdoc thuthesis
```

ThuThesis

- [GitHub](#)
- [CTAN](#)

2.2

ThuThesis

thuthesis.ins thuthesis.dtx	DocStrip DocStrip
thuthesis.cls thuthesis.cfg ctex-fontset-thuthesis.def thuthesis.bst	
main.tex shuji.tex ref/ data/ figures/ thuthesis.sty	
Makefile latexmkrc zhfonts.py README.md thuthesis.pdf	Makefile latexmk  Readme

- thuthesis.cls thuthesis.cfg thuthesis.ins thuthesis.dtx thuthesis.cls
- thuthesis.pdf

2.3

T<sub>E</sub>X

## 2.4

## 2.4.1

```

thuthesis-vX.Y.Z1      thuthesis.ins  thuthesis.dtx      thuthesis.bst
main.tex shuji.tex thuthesis.sty2 ctex-fontset-thuthesis.def3 data/ figures/ ref/
README.md Makefile

```

```

$ cd thuthesis-vX.Y.Z
# thuthesis.cls thuthesis.cfg
$ latex thuthesis.ins

#
$ xelatex thuthesis.dtx
$ makeindex -s gind.ist -o thuthesis.ind thuthesis.idx
$ makeindex -s gglo.ist -o thuthesis.gls thuthesis.glo
$ xelatex thuthesis.dtx
$ xelatex thuthesis.dtx % thuthesis.pdf

```

2.4.2 Xe<sub>La</sub>T<sub>E</sub>X

```

LATEX          LATEX          #          xelatex

# 1.          .tex
$ xelatex main

# 2.          bbl
$ bibtex main

# 3.
$ xelatex main
$ xelatex main # pdf

```

Xe<sub>La</sub>T<sub>E</sub>X      ThuThesis   xeCJK      ctex-fontset-thuthesis.def      3.4.1      ctex-fontset-thuthesis

## 2.4.3 dvipdfmx

```

dvipdfmx      dvi

$ latex main
$ bibtex main
$ latex main
$ latex main

dvi      dvipdfmx      pdf

$ dvipdfmx main

```

2.4.4 PDF<sub>La</sub>T<sub>E</sub>X

PDF <sub>La</sub> T <sub>E</sub> X	2.4.2	xe <sub>La</sub> T <sub>E</sub> X	pdflatex			
PDF <sub>La</sub> T <sub>E</sub> X	EPS	epstopdf	PDF	PDF <sub>La</sub> T <sub>E</sub> X	png.jpg	TeX Live
2010	epstopdf	EPS	PDF			

---

1vX.Y.Z  
2 thuthesis.cls  
3Xe<sub>La</sub>T<sub>E</sub>X

## 2.4.5 latexmk

```

latexmk      LATEX                               latexmk  xelatex
#
$ latexmk -xelatex main

```

## 2.4.6 make

```

ThuThesis  Makefile

$ make clean
$ make cls      # thuthesis.cls thuthesis.cfg
$ make doc      # thuthesis.pdf
$ make thesis   # main.pdf
$ make shuji    # shuji.pdf

ThuThesis  Makefile  latexmk  xelatex      xelatex pdflatex  dvipdfmx
Makefile      README.md      latexmkrc

```

## 2.5

```

ThuThesis      TeX                               thuthesis.ins thuthesis.dtx  thuthesis.bst

$ latex thuthesis.ins

thuthesis.cls thuthesis.cfg thuthesis.bst

```

## 3

L<sup>A</sup>T<sub>E</sub>X    BibT<sub>E</sub>X            T<sub>E</sub>X L<sup>A</sup>T<sub>E</sub>X

## 3.1

- [Github Issues](#)
- [Tex@newsimth](#)
- [ThuThesis@Google Groups](#)

## 3.2

```

thuthesis.cls thuthesis.cfg ctex-fontset-thuthesis.def thuthesis.bst
main.tex data/

```

```

\documentclass[type=master]{thuthesis}
%
% type=[bachelor|master|doctor|postdoctor], %
% secret, %
% pifootnote, %
% openany/openright, %
% arial, %
% arialtoc, %
% arialtitle %
%
%
\usepackage{thuthesis}
%
% figures

```

```

\graphicspath{{figures/}}

%%
% \def\myname {}

\begin{document}

%%
%%
\frontmatter
\input{data/cover}
%
% PDF
% \makecover[scan-auth.pdf]
\makecover

%%
%%
\tableofcontents

%%
%%
\input{data/denotation}

%%
%%
\mainmatter
\include{data/chap01}
\include{data/chap02}
\include{data/chap03}
\include{data/chap04}

%%
%%
\backmatter

%%
%%
%
%
\listoffigures
%
%
\listoftables
%
%
\listofequations

%%
%%
%
%
\bibliographystyle{thuthesis}
\bibliography{ref/refs}

%%
%%
\include{data/ack}

%%
%%
\begin{appendix}
\input{data/appendix01}
\end{appendix}

%%
%%
\include{data/resume}
\end{document}

```

## 3.3

**type** bachelor master doctor postdoctor

```
%
\documentclass[type=doctor]{thuthesis}

%
\documentclass[type=master]{thuthesis}
```

**secret** 3.5.1 \secretlevel{< >} \secretyear{< >} “ ”

```
\documentclass[secret]{thuthesis} %
\documentclass[secret=false]{thuthesis} %

\thusetup{
  secretlevel =,
  secretyear=2020
}
%
\secretlevel {}
\secretyear{2020}
```

**pifootnote** pifont \textcircled 9 10

```
\documentclass[pifootnote]{thuthesis}
```

**openany** openright ThuThesis

**openright** openany<sup>4</sup> ThuThesis

**arial** Arial Arial Helvet arialtoc arialtitle arial T<sub>E</sub>X Arial

Helvet Arial **Arial**

**arialtoc** Arial arialtitle

**arialtitle** Arial

## 3.4

## 3.4.1

- CJK L<sup>A</sup>T<sub>E</sub>X PDFL<sup>A</sup>T<sub>E</sub>X
  - xeCJK X<sub>Ǝ</sub>L<sup>A</sup>T<sub>E</sub>X
- Fonts

ctex-fontset-thuthesis.def

```
\ProvidesFile{ctex-fontset-thuthesis.def}

\setCJKmainfont[BoldFont={SimHei},ItalicFont={KaiTi}]{SimSun}
\setCJKsansfont{SimHei}
\setCJKmonofont{FangSong}
\setCJKfamilyfont{zh song}{SimSun}
\setCJKfamilyfont{zh hei}{SimHei}
\setCJKfamilyfont{zh kai}{KaiTi}
\setCJKfamilyfont{zh fs}{FangSong}
\setCJKfamilyfont{zh li}{LiSu}
\setCJKfamilyfont{zh you}{YouYuan}

\newcommand*{\songti}{\CJKfamily{zh song}} %
\newcommand*{\heiti}{\CJKfamily{zh hei}} %
\newcommand*{\kaishu}{\CJKfamily{zh kai}} %
\newcommand*{\fangsong}{\CJKfamily{zh fs}} %
```

<sup>4</sup> openany

```

\newcommand*{\lishu}{\CJKfamily{zhli}} %
\newcommand*{\youyuan}{\CJKfamily{zhyou}} %

Windows XP    KaiTi    KaiTi_GB2312 FangSong    FangSong_GB2312
               ctex-fontset-thuthesis.def  zhli  zhyou    \lishu  \youyuan

zhfonts.py    Linux/Mac                ctex-fontset-thuthesis.def

```

```
$ fc-list :lang=zh file family style > zhfonts.txt
```

## 3.4.2

```

\songti
\fangsong
\heiti
\kaishu
\lishu
\youyuan

```

```

{\songti    }
{\fangsong  }
{\heiti     }
{\kaishu    }
{\lishu     }
{\heiti     }
{\songti    }
{\youyuan   }

```

```

\chuhao
\xiaochu
\yihao
\xiaoyi
\bahao

```

\chuhao	\xiaochu	\yihao	\xiaoyi	\erhao	\xiaoer
\sanhao	\xiaosan	\sihao	\banxiaosi	\xiaosi	\dawu
\wuhao	\xiaowu	\liuhao	\xiaoliu	\qihao	\bahao

\command[⟨num⟩]	command	num	\xiaosi[1.5]	1.5	\dawu
-----------------	---------	-----	--------------	-----	-------

```

{\erhao }
{\sanhao[1.5] }
{\sihao }
{\qihao[2] }

```

```
\zihao{⟨num⟩}
```

## 3.5

```
\thusetup    key=value                key                c                e
```

```

\thusetup

```

```

\thusetup    key=value

\thusetup{
  key1 = value1,
  key2 = {a value, with comma},
}
%
\thusetup{
  key3 = value3,
  key1 = value11, %    value1
}

```

```

\thusetup    kvoptions
\command{⟨arg⟩}    data/cover.tex

```



## 3.5.1

secret

`\secretlevel`  
`\secretyear`

```
\thusetup{
  secretyear=2020,
  secretlevel ={},
}
%
\secretyear{2020}
\secretlevel {}
```

## 3.5.2

`\id`  
`\udc`  
`\catalognumber`

```
\thusetup{
  catalognumber ={},
  udc={udc},
  id={id}
}
%
\catalognumber {}
\udc{udc}
\id {}
```

## 3.5.3

\\

`\ctitle`  
`\etitle`

```
\thusetup{
  ctitle ={},
  etitle={Thesis English Title}
}
%
\ctitle {}
\etitle{Thesis English Title}
```

## 3.5.4

`\cauthor`  
`\eauthor`

```
\thusetup{
  cauthor ={},
  eauthor={Name in Pinyin}
}
%
\cauthor {}
\eauthor{Name in PinYin}
```

## 3.5.5

`\cdegree`  
`\edegree`

edegree	emajor
“Master of Art” “Master of Science”	“ ”
“Science”	“Master of Arts” “Master of Science”

---



---

Doctor of Philosophy

---



---

```
\thusetup{
  cdegree   ={},
  edegree={degree in English}
}
%
\cdegree   {}
\edegree{degree in English}
```

## 3.5.6

```
\cdepartment
\edepartment
```

```
\thusetup{
  cdepartment ={},
  edepartment={Department of CS}
}
%
\cdepartment {}
\edepartment{Department of CS}
```

## 3.5.7

## 3.5.5

```
\cmajor
\emajor
```

```
\thusetup{
  cmajor ={},
  emajor={Major in English}
}
%
\cmajor {}
\emajor{Major in English}
```

```
\cfirstdiscipline
\cseconddiscipline
```

```
\thusetup{
  cfirstdiscipline   ={},
  cseconddiscipline   ={}
}
%
\cfirstdiscipline   {}
\cseconddiscipline   {}
```

## 3.5.8

```
\csupervisor
\esupervisor
```

```
\thusetup{
  csupervisor ={\sim},
  esupervisor={Supervisor}
}
%
\csupervisor {\sim}
\esupervisor{Supervisor}
```

`\cassosupervisor`  
`\eassosupervisor`

```
\thusetup{
  cassosupervisor  ={\~},
  eassosupervisor={2nd Boss}
}
%
\cassosupervisor  {\~}
\eassosupervisor{2nd Boss}
```

`\ccosupervisor`  
`\ecosupervisor`

```
\thusetup{
  ccosupervisor  ={\~},
  ecosupervisor={3rd Boss}
}
%
\ccosupervisor  {\~}
\ecosupervisor{3rd Boss}
```

## 3.5.9

`\cdate`  
`\edate`  
`\postdoctordate`

```
\thusetup{
  cdate  ={\},
  edate={English Date},
  postdoctordate -- ={\2009720117} %
}
%
\cdate  {}
\edate{English Date}
\postdoctordate -- {\2009720117} %
```

## 3.5.10

`cabstract`  
`eabstract`

```
\thusetup
\begin{cabstract}
  ...
\end{cabstract}

\begin{eabstract}
  Here comes the abstract in English...
\end{eabstract}
```

`\ckeywords`  
`\ekywords`

```
\thusetup{
  ckeywords  ={\ 1, \ 2},
  ekeywords={keyword 1, keyword 2}
}
%
\ckeywords  {\ 1, \ 2}
\ekywords{keyword 1, keyword 2}
```

`\makecover[⟨file⟩]`

PDF

`\makecover`

```
%
\makecover
```

```
% scan-auth.pdf
\makecover[scan-auth.pdf]
```

3.5.11

denotation

description

2.5cm

```
\begin{denotation}
  \item[E]
  \item[m]
  \item[c]
\end{denotation}
```

```
\begin{denotation}[1.5cm] % 1.5cm
  \item[E]
  \item[m]
  \item[c]
\end{denotation}
```

3.6

```
\tableofcontents
\listoffigures
\listoffigures*
\listoftables
\listoftables*
\listofequations
\listofequations*
```

\tableofcontents
\listoffigures
\listoffigures*
\listoftables
\listoftables*
\listofequations
\listofequations*

L<sup>A</sup>T<sub>E</sub>X

\caption

\caption\*

“ xx” “ xx”

L<sup>A</sup>T<sub>E</sub>X

\caption\*

amsmath

equation caption

equation

mymath

\equcaption

\caption

\equcaption

\equcaption{< >}

```
\begin{mymath}
  \label{eq:emc2}\equcaption{\ref{eq:emc2}}
  E=mc^2
\end{mymath}
```

mymath

\tag\*{< >}

A

## 3.7

## 3.7.1

acknowledgement

:)

```
\begin{acknowledgement}
...
\LaTeX{}
\end{acknowledgement}
```

“ ”

PDF

```
\begin{acknowledgement}[scan-statement.pdf]

\LaTeX{}
\end{acknowledgement}
```

## 3.7.2

appendix

chapter

```
\begin{appendix}
\input{data/appendix01}
\input{data/appendix02}
\end{appendix}
```

\chapter

“

”

\title{&lt; &gt;}

\title

translationbib

```
\begin{translationbib}
\item Donald E. Knuth. The \TeX book. Addison-Wesley, 1984. ISBN: 0-201-13448-9
\item Paul W. Abrahams, Karl Berry and Kathryn A. Hargreaves. \TeX\ for the
Impatient. Addison-Wesley, 1990. ISBN: 0-201-51375-7
\item David Salomon. The advanced \TeX book. New York : Springer, 1995. ISBN:0-387-94556-3
\end{translationbib}
```

## 3.7.3

resume

\xxxitem{&lt;subtitle&gt;}

\resumeitem{ }

\resumeitem

\researchitem{&lt; &gt;} “ ” “ ” publications achievements

\researchitem

publications

1

publications

1.

2.

3.

publications

\publicationskip

\publicationskip

```
\researchitem {}
```

% 1.

\begin{publications}

```
\item Yang Y, Ren T L, Zhang L T, et al. Miniature microphone with silicon-
based ferroelectric thin films. Integrated Ferroelectrics, 2003,
52:229-235. (SCI , :758FZ.)
```

```
\item , , , .
, 2005, 16(14):1289-1291. (EI , :0534931 2907.)
```

```
\item , , , .
2003, 24(S4):192-193. (EI .)
```

\end{publications}

```
% 2.
\begin{publications}[before=\publicationskip,after=\publicationskip]
  \item Yang Y, Ren T L, Zhu Y P, et al. PMUTs for handwriting recognition. In
    press. ( Integrated Ferroelectrics . SCI .)
\end{publications}

% 3.
\begin{publications}
  \item Wu X M, Yang Y, Cai J, et al. Measurements of ferroelectric MEMS
    microphones. Integrated Ferroelectrics, 2005, 69:417-429. (SCI ,
    :896KM)
  \item , , , .
    , 2006, 28(1):117-119. (EI , :06129773469)
  \item , , , . MEMS. ,
    2003, 53:59-61.
\end{publications}
```

```
achievements      \researchitem{ } achievements
                   data/resume.tex
```

3.8  
3.8.1

ThuThesis

axiom	theorem	definition	proposition	lemma	conjecture	
proof	corollary	example	exercise	assumption	remark	problem

```
\begin{definition}
\end{definition}
```

1.1
-----

```
\newtheorem{nonsense }{ }[chapter]
```

```
\begin{nonsense}
--
\end{nonsense}
```

1.1	——
-----	----

3.8.2

```
\inlinecite      1      “      [1,2] ...” 2      “ [3]      ...”      \cite{<key>} \inlinecite{<key>}
                  BibTEX      Entry: lang      zh      thuthesis.bst
```

```

@INPROCEEDINGS{cnproceed,
  author   = { and and and and },
  title    = {},
  booktitle = {- $N $~},
  year     = 2006,
  address  = {, },
  month    = sep,
  lang     = "zh",
}

@ARTICLE{cnarticle,
  AUTHOR = " and and and ",
  TITLE = "",
  JOURNAL = "",
  PAGES = "260--266",
  VOLUME = "224",
  YEAR = "1800",
  LANG = "zh",
}

```

main.tex \bibliography

### 3.8.3

itemize                      enumitem                      enumitem  
 enumerate  
 description    3.8.4

\shuji                      \shuji[< >][< >]                      shuji.tex

```

\documentclass[type=master]{thuthesis}
% type

\begin{document}
\thuset{
  ctitle = {},
  cauthor = {}
}

\shuji %

\shuji []

\shuji [] []

%
\shuji [ \raisebox{-5pt}{\LaTeX} \raisebox{-5pt}{v\version} ]
\end{document}

```

### 3.9

thuthesis.cfg                      \renewcommand

## 4

ThuThesis  
 ThuThesis Github

## 5

## 5.1

```

1 <cls>\NeedsTeXFormat{LaTeX2e}[1999/12/01]
2 <cls>\ProvidesClass{thuthesis}
3 <cfg>\ProvidesFile{thuthesis.cfg}
4 <cls|cfg>[2016/01/18 5.2.1 Tsinghua University Thesis Template]

```

## 5.2

```

5 <*cls>
6 \hyphenation{Thu-Thesis}
7 \def\thuthesis{\textsc{ThuThesis}}
8 \def\version{5.2.2}
9
10 \RequirePackage{kvoptions}
11 \SetupKeyvalOptions{
12   family=thu,
13   prefix=thu@,
14   setkeys=\kvsetkeys}
15   kvoptions key=value
16 \newif\ifthu@bachelor
17 \newif\ifthu@master
18 \newif\ifthu@doctor
19 \newif\ifthu@postdoctor
20 \define@key{thu}{type}{%
21   \thu@bachelorfalse
22   \thu@masterfalse
23   \thu@doctorfalse
24   \thu@postdoctorfalse
25   \expandafter\csname thu@#1true\endcsname}
26 \def\thu@deprecated@type@option{%
27   \kvsetkeys{thu}{type=\CurrentOption} % for compatability.
28   \ClassError{thuthesis}{Option '\CurrentOption' is deprecated, \MessageBreak
29     please use 'type=\CurrentOption' instead}{}}
30 \DeclareVoidOption{bachelor}{\thu@deprecated@type@option}
31 \DeclareVoidOption{master}{\thu@deprecated@type@option}
32 \DeclareVoidOption{doctor}{\thu@deprecated@type@option}
33 \DeclareVoidOption{postdoctor}{\thu@deprecated@type@option}
34 \DeclareBoolOption{secret}
35   Sans      Arial
36 \DeclareBoolOption{arial}
37   Arial
38 \DeclareBoolOption{arialtoc}
39   Arial
40 \DeclareBoolOption{arialtitle}
41   raggedbottom
42 \DeclareBoolOption{raggedbottom}
43   pifont
44 \DeclareBoolOption{pifootnote}
45   ctexbook
46 \DeclareDefaultOption{\PassOptionsToClass{\CurrentOption}{ctexbook}}

```



---

```

40 \kvsetkeys{thu}{%
41   raggedbottom,
42   arial,
43   arialtitle}

      ctexbook
44 \ProcessKeyvalOptions*
      XeLTeX   fontspec   xeCJK   fontspec   no-math   CMR
45 \PassOptionsToPackage{no-math}{fontspec}
      ctexbook   ctex
46 \LoadClass[a4paper,openany,UTF8,zihao=-4,scheme=plain,fontset=none]{ctexbook}

47 \ifthu@bachelor\relax\else
48   \ifthu@master\relax\else
49     \ifthu@doctor\relax\else
50       \ifthu@postdoctor\relax\else
51         \ClassError{thuthesis}%
52           {Please specify thesis type in option: \MessageBreak
53             type=[bachelor | master | doctor | postdoctor]}{}
54       \fi
55     \fi
56   \fi
57 \fi

```

### 5.3

```

58 \RequirePackage{etoolbox}
59 \RequirePackage{ifxetex}
60 \RequirePackage{xparse}

 $\mathcal{AMS}$ -TeX
61 \RequirePackage{amsmath}
      newtx   Times New Roman Helvetica
62 \RequirePackage[defaultsup]{newtxtext}
63 \RequirePackage{newtxmath}
      newtx   Mono   Mono   Courier   TEX Gyre Cursor
64 \RequirePackage{tgcursor}

65 \RequirePackage{graphicx}
      subfigure subfig   subcaption   caption2   caption
66 \RequirePackage[labelformat=simple]{subcaption}
      pdfpages   PDF
67 \RequirePackage{pdfpages}
68 \includepdfset{fitpaper=true}

69 \RequirePackage[shortlabels]{enumitem}
70 \RequirePackage{environ}

 $\text{\LaTeX}$ 
71 \ifthu@raggedbottom
72   \RequirePackage[bottom,perpage,hang]{footmisc}
73   \raggedbottom

```

---

```

74 \else
75   \RequirePackage[perpage,hang]{footmisc}
76 \fi

77 \ifthu@pifootnote
78   \RequirePackage{pifont}
79 \fi

CJKfntef          \makebox[⟨width⟩][⟨s⟩]      underful boxes
80 \RequirePackage{CJKfntef}

  TODO   \baselinestretch
81 \renewcommand{\baselinestretch}{1.0} % todo:?

  XqTeX
82 \ifxetex
83   \def\CJK@null{\kern\CJKnullspace\Unicode{48}{7}\kern\CJKnullspace}
84   \defaultfontfeatures{Mapping=tex-text}

               ctex-fontset-thuthesis.def      XqTeX      CJKspace
85   \IfFileExists{ctex-fontset-thuthesis.def}%
86     {\ctexset{fontset=thuthesis}}%
87     {\ctexset{fontset=windows}}
88 \else
89   \RequirePackage{CJKspace}
arial          arial      helvet   \textsf
90   \ifthu@arial
91     \IfFileExists{arial.sty}%
92       {\RequirePackage{arial}}%
93       {\ClassWarning{thuthesis}{arial.sty is not available!}}
94   \fi
95 \fi

      amsmath       $\mathcal{A}\mathcal{M}\mathcal{S}$ -TeX
96 \RequirePackage[amsmath,thmmarks,hyperref]{ntheorem}

97 \RequirePackage{array}
98 \RequirePackage{longtable}

      \toprule \midrule \bottomrule
99 \RequirePackage{booktabs}

100 \RequirePackage[numbers,super,sort&compress]{natbib}

      pdf          gbk2uni
101 \RequirePackage{hyperref}
102 \ifxetex
103   \hypersetup{%
104     CJKbookmarks=true}
105 \else
106   \hypersetup{%
107     unicode=true,
108     CJKbookmarks=false}
109 \fi
110 \hypersetup{%
111   linktoc=all,
112   bookmarksnumbered=true,
113   bookmarksopen=true,
114   bookmarksopenlevel=1,
115   breaklinks=true,

```

```

116 colorlinks=false,
117 plainpages=false,
118 pdfborder=0 0 0}
    dvips          breakurl
    url
119 \urlstyle{same}

```

## 5.4

### WORD

```

120 \RequirePackage{geometry}
121 \geometry{
122   a4paper, % 210 * 297mm
123   hcentering,
124   ignoreall,
125   nomarginpar}
126 \ifthu@bachelor
127   \geometry{
128     left=32mm,
129     headheight=5mm,
130     headsep=5mm,
131     textheight=220mm,
132     bottom=37mm,
133     footskip=17mm}
134 \else
135   \geometry{
136     left=30mm,
137     headheight=5mm,
138     headsep=5mm,
139     textheight=237mm,
140     bottom=29mm,
141     footskip=6mm}
142 \fi
    fancyhdr
143 \RequirePackage{fancyhdr}
144 </cls>

```

## 5.5

### 5.5.1 Three matters

```

\cleardoublepage    openright
145 < *cls>
146 \let\thu@cleardoublepage\cleardoublepage
147 \newcommand{\thu@clearempydoublepage}{%
148   \clearpage{\pagestyle{thu@empty}}\thu@cleardoublepage}}
149 \let\thu@cleardoublepage\thu@clearempydoublepage

\frontmatter
\mainmatter
\backmatter
150 \renewcommand\frontmatter{%
151   \ifopenright\cleardoublepage\else\clearpage\fi
152   \@mainmatterfalse
153   \pagenumbering{Roman}
154   \pagestyle{thu@empty}}
155 \renewcommand\mainmatter{%
156   \ifopenright\cleardoublepage\else\clearpage\fi
157   \@mainmattertrue

```

```

158 \pagenumbering{arabic}
159 \ifthu@bachelor\pagestyle{thu@plain}\else\pagestyle{thu@headings}\fi}
160 \renewcommand\backmatter{%
161 \if@openright\cleardoublepage\else\clearpage\fi
162 \@mainmattertrue}
163 </cls>

```

## 5.5.2

WORD 1bp = 72.27/72 pt :

42bp	14.82mm	42.1575pt
36bp	12.70mm	36.135 pt
26bp	9.17mm	26.0975pt
24bp	8.47mm	24.09pt
22bp	7.76mm	22.0825pt
18bp	6.35mm	18.0675pt
16bp	5.64mm	16.06pt
15bp	5.29mm	15.05625pt
14bp	4.94mm	14.0525pt
12bp	4.23mm	12.045pt
10.5bp	3.70mm	10.59375pt
9bp	3.18mm	9.03375pt
7.5bp	2.56mm	
6.5bp	2.29mm	
5.5bp	1.94mm	
5bp	1.76mm	

\thu@def@fontsize

\thu@def@fontsize{< >}{< >}

```

164 <*cls>
165 \newlength\thu@linespace
166 \newcommand\thu@choosefont}[2]{%
167 \setlength{\thu@linespace}{#2*\real{#1}}%
168 \fontsize{#2}{\thu@linespace}\selectfont}
169 \def\thu@def@fontsize#1#2{%
170 \expandafter\newcommand\csname #1\endcsname[1][\baselinestretch]{%
171 \thu@choosefont{##1}{#2}}

```

```

\chuhao      TODO \zihao
\xiaochu     172 \thu@def@fontsize{chuhao}{42bp}
\yihao       173 \thu@def@fontsize{xiaochu}{36bp}
\xiaoyi      174 \thu@def@fontsize{yihao}{26bp}
\erhao       175 \thu@def@fontsize{xiaoyi}{24bp}
\xiaoer      176 \thu@def@fontsize{erhao}{22bp}
\sanhao      177 \thu@def@fontsize{xiaoer}{18bp}
\xiaosan     178 \thu@def@fontsize{sanhao}{16bp}
\sihao       179 \thu@def@fontsize{xiaosan}{15bp}
\banxiaosi   180 \thu@def@fontsize{sihao}{14bp}
\xiaosi      181 \thu@def@fontsize{banxiaosi}{13bp}
\dawu        182 \thu@def@fontsize{xiaosi}{12bp}
\wuhao       183 \thu@def@fontsize{dawu}{11bp}
\xiaowu      184 \thu@def@fontsize{wuhao}{10.5bp}
\liuhao      185 \thu@def@fontsize{xiaowu}{9bp}
\xiaoliu     186 \thu@def@fontsize{liuhao}{7.5bp}
\qihao       187 \thu@def@fontsize{xiaoliu}{6.5bp}
\bahao

```

```

188 \thu@def@fontsize{qihao}{5.5bp}
189 \thu@def@fontsize{bahao}{5bp}

\normalsize      (12bp)      20 bp
190 \renewcommand\normalsize{%
191   \setfontsize\normalsize{12bp}{20bp}%
192   \abovedisplayskip=20bp \@plus 2bp \@minus 2bp
193   \abovedisplayshortskip=20bp \@plus 2bp \@minus 2bp
194   \belowdisplayskip=\abovedisplayskip
195   \belowdisplayshortskip=\abovedisplayshortskip}
196 </cls>

```

## 5.5.3

```

\ps@thu@empty
\ps@thu@plain
\ps@thu@headings

```

- `thu@empty`
- `thu@plain`      `\chapter`      `\thispagestyle{thu@plain}`
- `thu@headings`

```

197 <*cls>
198 \fancypagestyle{thu@empty}{%
199   \fancyhf{ }
200   \renewcommand{\headrulewidth}{0pt}
201   \renewcommand{\footrulewidth}{0pt}}
202 \fancypagestyle{thu@plain}{%
203   \fancyhead{ }
204   \fancyfoot[C]{\xiaowu\thepage}
205   \renewcommand{\headrulewidth}{0pt}
206   \renewcommand{\footrulewidth}{0pt}}
207 \fancypagestyle{thu@headings}{%
208   \fancyhead{ }
209   \fancyhead[C]{\wuhao\songti\leftmark}
210   \fancyfoot{ }
211   \fancyfoot[C]{\wuhao\thepage}
212   \renewcommand{\headrulewidth}{0.4pt}
213   \renewcommand{\footrulewidth}{0pt}}
214 </cls>

```

## 5.5.4

```

2
215 <*cls>
216 \ctexset{%
217   punct=quanjiao,
218   space=auto,
219   autoindent=true}

enumitem
220 \setlist{nosep}
221 </cls>

```

## 5.5.5

```

\thu@textcircled      10
222 <*cls>
223 \def\thu@textcircled#1{%

```

```

224 \ifnum\value{#1} >9
225 \ClassError{thuthesis}%
226 {Too many footnotes in this page.}{Keep footnote less than 10.}
227 \fi
228 \ifthu@pifootnote%
229 \ding{\numexpr171+\value{#1}}%
230 \else%
231 \textcircled{\xiaoliu\arabic{#1}}%
232 \fi}
233 \renewcommand{\thefootnote}{\thu@textcircled{footnote}}
234 \renewcommand{\thempfootnote}{\thu@textcircled{mpfootnote}}

```

## 1.5

```

235 \def\footnoterule{\vskip-3\p@\hrule\@width0.3\textwidth\@height0.4\p@\vskip2.6\p@}
236 \let\thu@footnotesize\footnotesize
237 \renewcommand\footnotesize{\thu@footnotesize\xiaowu[1.5]}
238 \footnotemargin1.5em\relax
    \@makefnmark          \patchcmd    \@makefnmark
239 \let\thu@makefnmark\@makefnmark
240 \def\thu@@makefnmark{\hbox{{\normalfont\@thefnmark}}}
241 \pretocmd{\@makefnmark}{\let\@makefnmark\thu@@makefnmark}{-}{-}
242 \apptocmd{\@makefnmark}{\let\@makefnmark\thu@makefnmark}{-}{-}
243 </cls>

```

## 5.5.6

```

244 <*cls>
245 \allowdisplaybreaks[4]
246 \renewcommand\theequation{\ifnum \c@chapter>\z@ \thechapter-\fi\@arabic\c@equation}
    4 \normalsize
    (1-1)
    \make@df@tag \tag* \tag \amsmath \tagform@ amsmath \tag*
    \make@df@tag@ \tag*
\def\make@df@tag{\@ifstar\make@df@tag@@\make@df@tag@@@}
\def\make@df@tag@@#1{%
  \gdef\df@tag{\maketag@@@{#1}\def\@currentlabel{#1}}}

247 \def\make@df@tag{\@ifstar\thu@make@df@tag@@\make@df@tag@@@}
248 \def\thu@make@df@tag@@#1{\gdef\df@tag{\thu@maketag{#1}\def\@currentlabel{#1}}}
249 % redefinition of tagform brokes eqref!
250 \renewcommand\eqref[1]{\textup{(\ref{#1})}}
251 \renewcommand\theequation{\ifnum \c@chapter>\z@ \thechapter-\fi\@arabic\c@equation}
252 %\ifthu@bachelor
253 % \def\thu@maketag#1{\maketag@@@{#1}\unskip\@italiccorr}}
254 % (\ignorespaces\text{equationname\hspace{0.5em}#1\unskip\@italiccorr}}
255 % \def\tagform@#1{\maketag@@@{#1}\unskip\@italiccorr}\equcaption{#1}}
256 % (\ignorespaces\text{equationname\hspace{0.5em}#1\unskip\@italiccorr}\equcaption{#1}}
257 %\else
258 \def\thu@maketag#1{\maketag@@@{(\ignorespaces #1\unskip\@italiccorr)}}
259 \def\tagform@#1{\maketag@@@{(\ignorespaces #1\unskip\@italiccorr)\equcaption{#1}}}
260 %\fi

261 \theorembodyfont{\rmfamily\songti}
262 \theoremheaderfont{\rmfamily\heiti}
263 </cls>
264 <*cfg>

```

```

265 \theoremsymbol{\ensuremath{\square}}
266 \newtheorem*{proof}{ }
267 \theoremstyle{plain}
268 \theoremsymbol{}
269 \theoremseparator{ }
270 \newtheorem{assumption}{ }[chapter]
271 \newtheorem{definition}{ }[chapter]
272 \newtheorem{proposition}{ }[chapter]
273 \newtheorem{lemma}{ }[chapter]
274 \newtheorem{theorem}{ }[chapter]
275 \newtheorem{axiom}{ }[chapter]
276 \newtheorem{corollary}{ }[chapter]
277 \newtheorem{exercise}{ }[chapter]
278 \newtheorem{example}{ }[chapter]
279 \newtheorem{remark}{ }[chapter]
280 \newtheorem{problem}{ }[chapter]
281 \newtheorem{conjecture}{ }[chapter]
282 </cfg>

```

## 5.5.7

```

283 <*cls>
284 \setlength{\floatsep}{20bp \@plus4pt \@minus1pt}
285 \setlength{\intextsep}{20bp \@plus4pt \@minus2pt}
286 \setlength{\textfloatsep}{20bp \@plus4pt \@minus2pt}
287 \setlength{\@fptop}{0bp \@plus1.0fil}
288 \setlength{\@fpsep}{12bp \@plus2.0fil}
289 \setlength{\@fpbot}{0bp \@plus1.0fil}

290 \renewcommand{\textfraction}{0.15}
291 \renewcommand{\topfraction}{0.85}
292 \renewcommand{\bottomfraction}{0.65}
293 \renewcommand{\floatpagefraction}{0.60}

    •      11pt
    •
    •  caption      6      12
    •  caption      12     6

294 \ifthu@bachelor
295   \g@addto@macro\appendix{\renewcommand*{\thefigure}{\thechapter-\arabic{figure}}}
296   \g@addto@macro\appendix{\renewcommand*{\thetable}{\thechapter-\arabic{table}}}
297 \fi
298 \let\old@tabular\@tabular
299 \def\thu@tabular{\dauw[1.5]\old@tabular}
300 \DeclareCaptionLabelFormat{thu}{\dauw[1.5]\songti #1~\rmfamily #2}
301 \DeclareCaptionLabelSeparator{thu}{\hspace{1em}}
302 \DeclareCaptionFont{thu}{\dauw[1.5]}
303 \captionsetup{labelformat=thu,labelsep=thu,font=thu}
304 \captionsetup[table]{position=top,belowskip={12bp-\intextsep},aboveskip=6bp}
305 \captionsetup[figure]{position=bottom,belowskip={12bp-\intextsep},aboveskip=6bp}
306 \captionsetup[sub]{font=thu,skip=6bp}
307 \renewcommand{\thesubfigure}{(\alph{subfigure})}
308 \renewcommand{\thesubtable}{(\alph{subtable})}
309 % \renewcommand{\p@subfigure}{:}

longtable

```

```

310 \let\thu@LT@array\LT@array
311 \def\LT@array{\dauw[1.5]\thu@LT@array} % set default font size

\hlinewd          \hlinewd          booktabs
312 \def\hlinewd#1{%
313   \noalign{\ifnum0=}\fi\hrule \@height #1 \futurelet
314     \reserved@a\@xhline}
315 </cls>

```

## 5.5.8

```

316 <*cfg>
317 \ctexset{%
318   chapter/name={ , },
319   appendixname= ,
320   contentsname={ \hspace{\ccwd} },
321   listfigurename= ,
322   listtablename= ,
323   figurename= ,
324   tablename= ,
325   bibname= ,
326   indexname= ,
327 }
328 \newcommand\listequationname{ }
329 \newcommand\equationname{ }
330 \ifthu@bachelor
331   \newcommand{\cabstractname}{ }
332   \newcommand{\eabstractname}{ABSTRACT}
333 \else
334   \newcommand{\cabstractname}{ \hspace{\ccwd} }
335   \newcommand{\eabstractname}{Abstract}
336 \fi
337 \let\CJK@todaysave=\today
338 \def\CJK@todaysmall@short{\the\year \the\month }
339 \def\CJK@todaysmall{\the\year \the\month \the\day }
340 \def\CJK@todaybig@short{\zhdigits{\the\year} \zhnumber{\the\month} }
341 \def\CJK@todaybig{\zhdigits{\the\year} \zhnumber{\the\month} \zhnumber{\the\day} }
342 \def\CJK@today{\CJK@todaysmall}
343 \renewcommand\today{\CJK@today}
344 \newcommand\CJKtoday[1][1]{%
345   \ifcase#1\def\CJK@today{\CJK@todaysave}
346   \or\def\CJK@today{\CJK@todaysmall}
347   \or\def\CJK@today{\CJK@todaybig}
348 \fi}
349 </cfg>

```

```

          arial          \sffamily
350 <*cls>
351 \def\thu@title@font{%
352   \ifthu@arialtitle\sffamily\else\relax\fi}

fancyhdr          fancyhdr          \chaptermark          book.cls

```

```

\newcommand\chaptername{Chapter}
\newcommand\@chapapp{\chaptername}
\def\chaptermark#1{
  \markboth{\MakeUppercase{\@chapapp\ thechapter}}{}}
\chapapp          \CTEXthechapter “ x ” \MakeUppercase
\renewcommand{\chaptermark}[1]{\@mkboth{\CTEXthechapter\hskip\ccwd#1}{}}

```



```
fancyhdr \ps@fancy \chaptermark \ps@fancy \fancypagestyle
\newcommand{\fancypagestyle}[2]{%
  \@namedef{ps@#1}{\let\fancy@gb1\relax#2\relax\ps@fancy}}
```

```
\ps@fancy fancyhdr \chaptermark
353 \AtBeginDocument{%
354 \pagestyle{thu@empty}
355 \renewcommand{\chaptermark}[1]{\@mkboth{\CTEXthechapter\hskip\ccwd#1}{}}}
```

chapter		24	18	30/20 pt	20pt	30pt	
section	2.1			14pt	20	24	6 25/12 pt 18pt
subsection	2.1.1	13pt	( 14pt)		20	12	6
subsubsection	2.1.2.1		12pt		20	12	6

```
356 \newcommand\thu@chapter@titleformat[1]{%
357 \ifthu@bachelor #1\else%
358 \ifthenelse%
359 {\equal{#1}{\eabstractname}}%
360 {\bfseries #1}%
361 {#1}%
362 \fi}
363 \ctexset{%
364 chapter={
365 afterindent=true,
366 pagestyle={\ifthu@bachelor thu@plain\else thu@headings\fi},
367 beforeskip={\ifthu@bachelor 13bp\else 9bp\fi},
368 aftername=\hskip\ccwd,
369 afterskip={\ifthu@bachelor 20bp\else 24bp\fi},
370 format={\centering\thu@title@font\heiti\ifthu@bachelor\xiaosan\else\sanhao[1]\fi},
371 nameformat=\relax,
372 numberformat=\relax,
373 titleformat=\thu@chapter@titleformat,
374 },
375 section={
376 afterindent=true,
377 beforeskip={\ifthu@bachelor 25bp\else 24bp\fi\@plus 1ex \@minus .2ex},
378 afterskip={\ifthu@bachelor 12bp\else 6bp\fi \@plus .2ex},
379 format={\thu@title@font\heiti\sihao[1.429]},
380 },
381 subsection={
382 afterindent=true,
383 beforeskip={\ifthu@bachelor 12bp\else 16bp\fi\@plus 1ex \@minus .2ex},
384 afterskip={6bp \@plus .2ex},
385 format={\thu@title@font\heiti\ifthu@bachelor\xiaosi[1.667]\else\banxiaosi[1.538]\fi},
386 },
387 subsubsection={
388 afterindent=true,
389 beforeskip={\ifthu@bachelor 12bp\else 16bp\fi\@plus 1ex \@minus .2ex},
390 afterskip={6bp \@plus .2ex},
391 format={\csname thu@title@font\endcsname\heiti\xiaosi[1.667]},
392 },
393 paragraph/afterindent=true,
394 subparagraph/afterindent=true}
```

\thu@chapter*	\chapter*	Abstract	\chapter*
\thu@chapter*	\thu@chapter*[{<tocline>}]{<title>}[<header>]: tocline		chapter title title
	header title T <sub>E</sub> X macro		

```

395 \newcounter{thu@bookmark}
396 \NewDocumentCommand\thu@chapter{s o m o}{
397   \IfBooleanF{#1}{%
398     \ClassError{thuthesis}{You have to use the star form: \string\thu@chapter*}{%
399   }%
400   \ifopenright\cleardoublepage\else\clearpage\fi\phantomsection%
401   \IfValueTF{#2}{%
402     \ifthenelse{\equal{#2}{}}{%
403       \addtocounter{thu@bookmark}\@ne
404       \pdfbookmark[0]{#3}{thuchapter.\thethu@bookmark}
405     }{%
406       \addcontentsline{toc}{chapter}{#3}
407     }
408   }{%
409     \addcontentsline{toc}{chapter}{#3}
410   }%
411   \chapter*{#3}%
412   \IfValueTF{#4}{%
413     \ifthenelse{\equal{#4}{}}{
414       {\@mkboth{}{}}
415       {\@mkboth{#4}{#4}}
416     }{%
417       \@mkboth{#3}{#3}
418     }
419   }
420 </cls>

```

## 5.5.9

4 : x.x.x.x  
chapter(0), section(1), subsection(2), subsubsection(3)

```

421 <*cls>
422 \setcounter{secnumdepth}{3}
423 \setcounter{tocdepth}{2}

```

6	0	Arial	\sffamily	Arial	Times
---	---	-------	-----------	-------	-------

## \tableofcontents

```

424 \renewcommand\tableofcontents{%
425   \thu@chapter*[]{\contentsname}
426   \ifthu@bachelor\xiaosi[1.8]\else\xiaosi[1.65]\fi\@starttoc{toc}\normalsize}

427 \ifthu@arialtoc
428   \def\thu@toc@font{\sffamily}
429 \fi
430 \def\@pnumwidth{2em}
431 \def\@tocrmarg{\@pnumwidth}
432 \def\@dotsep{1}
433 \patchcmd{\@dottedtocline}{#4}{\csname thu@toc@font\endcsname #4}{-}{-}
434 \patchcmd{\@dottedtocline}{\hb@xt@\@pnumwidth}{\hbox}{-}{-}
435 \renewcommand*\l@chapter[2]{%
436   \ifnum \c@tocdepth > \m@ne
437     \addpenalty{-\@highpenalty}%
438     \vskip 4bp \@plus\p@
439     \setlength\@tempdima{4em}%
440     \begingroup
441       \parindent \z@ \rightskip \@pnumwidth
442       \parfillskip -\@pnumwidth
443       \leavevmode

```

```

444 \advance\leftskip\@tempdima
445 \hskip -\leftskip
446 % numberline is called here, and it uses \@tempdima
447 {\ifthu@bachelor\sffamily\else\csize thu@toc@font\endcsname\fi\heiti #1}
448 \leaders\hbox{$\m@th\mkern \@dotsep mu\hbox{.}\mkern \@dotsep mu$}\hfill
449 \nobreak{\normalfont\normalcolor #2}\par
450 \penalty\@highpenalty
451 \endgroup
452 \fi}

1 2 1.5 1 1.5

453 \renewcommand*\l@section{%
454 \@dottedtocline{1}{\ccwd}{2.1em}}
455 \renewcommand*\l@subsection{%
456 \@dottedtocline{2}{\ifthu@bachelor 1.5\ccwd\else 2\ccwd\fi}{3em}}
457 \renewcommand*\l@subsubsection{%
458 \@dottedtocline{3}{\ifthu@bachelor 2.4em\else 3.5em\fi}{3.8em}}
459 </cls>

```

## 5.5.10

`\thu@def@term`

```

460 <*cls>
461 \def\thu@def@term#1{%
462 \define@key{thu}{#1}{\csize #1\endcsname{##1}}
463 \expandafter\gdef\csize #1\endcsname##1{%
464 \expandafter\gdef\csize thu@#1\endcsname{##1}}
465 \csize #1\endcsname{}}

```

`\secretlevel`

`\secretyear`

```

466 \thu@def@term{secretlevel}
467 \thu@def@term{secretyear}

```

`\ctitle`

`\etitle`

```

468 \thu@def@term{ctitle}
469 \thu@def@term{etitle}

```

`\cauthor`

`\eauthor`

`\csupervisor`

`\cassosupervisor`

`\ccosupervisor`

`\esupervisor`

`\eassosupervisor`

`\ecosupervisor`

```

470 \thu@def@term{cauthor}
471 \thu@def@term{csupervisor}
472 \thu@def@term{cassosupervisor}
473 \thu@def@term{ccosupervisor}
474 \thu@def@term{eauthor}
475 \thu@def@term{esupervisor}
476 \thu@def@term{eassosupervisor}
477 \thu@def@term{ecosupervisor}

```

`\cdegree`

`\edegree`

```

478 \thu@def@term{cdegree}
479 \thu@def@term{edegree}

```

`\cdepartment`

`\edepartment`

```

480 \thu@def@term{cdepartment}
481 \def\caffil{% for compatibility
482 \ClassWarning{thuthesis}
483 {\string\caffil' is deprecated, please use '\string\cdepartment' instead.}}{}%
484 \cdepartment}
485 \thu@def@term{edepartment}

```

```

486 \def\eaaffil{% for compability
487   \ClassWarning{thuthesis}
488   {'\string\eaaffil' is deprecated, please use '\string\edepartment' instead.}\}%
489   \edepartment}

```

\cmajor

\emajor

```

490 \thu@def@term{cmajor}
491 \def\csubject{% for compability
492   \ClassWarning{thuthesis}
493   {'\string\csubject' is deprecated, please use '\string\cmajor' instead.}\}%
494   \cmajor}
495 \thu@def@term{emajor}
496 \def\esubject{%for compability
497   \ClassWarning{thuthesis}
498   {'\string\esubject' is deprecated, please use '\string\emajor' instead.}\}%
499   \emajor}

```

\cdate

\edate

```

500 \thu@def@term{cdate}
501 \thu@def@term{edate}

```

\id

\udc

```

502 \thu@def@term{id}
503 \thu@def@term{udc}
504 \thu@def@term{catalognumber}
505 \thu@def@term{cfirstdiscipline}
506 \thu@def@term{cseconddiscipline}
507 \thu@def@term{postdoctordate}

```

\catalognumber

\cfirstdiscipline

\cseconddiscipline

\postdoctordate

cabstract

eabstract

```

                                environ \Collect@Body
508 \newcommand{\thu@@cabstract}[1]{\long\gdef\thu@cabstract{#1}}
509 \newenvironment{cabstract}{\Collect@Body\thu@@cabstract}{}
510 \newcommand{\thu@@eabstract}[1]{\long\gdef\thu@eabstract{#1}}
511 \newenvironment{eabstract}{\Collect@Body\thu@@eabstract}{}

```

\thu@parse@keywords

```

                                \ckeywords \ekeywords
512 \def\thu@parse@keywords#1{
513   \define@key{thu}{#1}{\csname #1\endcsname{##1}}
514   \expandafter\gdef\csname thu@#1\endcsname{
515     \expandafter\gdef\csname #1\endcsname##1{
516       \@for\reserved@a:=##1\do{
517         \expandafter\ifx\csname thu@#1\endcsname\@empty\else
518           \expandafter\g@addto@macro\csname thu@#1\endcsname{%
519             \ignorespaces\csname thu@#1\separator\endcsname}
520         \fi
521         \expandafter\expandafter\expandafter\g@addto@macro%
522         \expandafter\csname thu@#1\expandafter\endcsname\expandafter{\reserved@a}}}}

```

\ckeywords

\ekeywords

```

\thu@parse@keywords      \thu@ckeywords  \thu@ekeywords
523 \thu@parse@keywords{ckeywords}
524 \thu@parse@keywords{ekeywords}

```

\thusetup

```

                                \thusetup  key/value  key
                                \makecover  \makecover
525 \def\thusetup{\kvsetkeys{thu}}
526 \</cls>
                                cabstract eabstract

```

---

```

527 <*cfg>
528 \def\thu@ckeywords@separator{ }
529 \def\thu@ekeywords@separator{;}
530 \def\thu@catalog@number@title{ }
531 \def\thu@id@title{ }
532 \def\thu@title@sep{ }
533 \ifthu@postdoctor
534   \def\thu@secretlevel{ }
535 \else
536   \def\thu@secretlevel{ }
537 \fi
538 \def\thu@secretyear{\the\year}
539 \def\thu@schoolname{ }
540 \def\thu@postdoctor@report@title{ }
541 \def\thu@bachelor@subtitle{ }
542 \def\thu@bachelor@title@pre{ }
543 \def\thu@postdoctor@date@title{ }
544 \ifthu@postdoctor
545   \def\thu@author@title{ }
546 \else
547   \ifthu@bachelor
548     \def\thu@author@title{ }
549   \else
550     \def\thu@author@title{ }
551   \fi
552 \fi
553 \def\thu@postdoctor@first@discipline@title{ }
554 \def\thu@postdoctor@second@discipline@title{ \hspace{1em} }
555 \def\thu@secretlevel@inner{ }
556 \def\thu@secret@content{%
557   \ifx\thu@secretlevel\thu@secretlevel@inner\relax\else \fi%
558   \hspace{2em}\thu@secretyear\hspace{1em} }
559 \def\thu@apply{ \thu@cdegree }
560 \ifthu@bachelor
561   \def\thu@department@title{ }
562   \def\thu@major@title{ }
563 \else
564   \def\thu@department@title{ }
565   \def\thu@major@title{ }
566 \fi
567 \ifthu@postdoctor
568   \def\thu@supervisor@title{ }
569 \else
570   \def\thu@supervisor@title{ }
571 \fi
572 \ifthu@bachelor
573   \def\thu@assosuper@title{ }
574 \else
575   \def\thu@assosuper@title{ }
576 \fi
577 \def\thu@cosuper@title{%
578   \ifthu@doctor \else \ifthu@master \fi\fi}
579 \cdate{\ifthu@bachelor\CJK@todayssmall\else\CJK@todaybig@short\fi}
580 \edate{\ifcase \month \or January\or February\or March\or April\or May%
581   \or June\or July \or August\or September\or October\or November
582   \or December\fi\unskip,\ \ \the\year}
583 \newcommand{\thu@authtitle}{ }
584 \newcommand{\thu@authorization}{%

```

```

585 \ifthu@bachelor
586
587
588
589 \else
590
591
592             1
593
594     2
595             \ifthu@master \else
596 3
597 \fi
598
599
600 \fi}
601 \newcommand{\thu@authorizationaddon}{%
602     \ifthu@bachelor( )\else \fi}
603 \newcommand{\thu@authorsig}{\ifthu@bachelor \hskip1em \else \fi}
604 \newcommand{\thu@teachersig}{ }
605 \newcommand{\thu@frontdate}{%
606     \ifthu@bachelor\hspace{1em}\else\hspace{2em}\fi }
607 \newcommand{\thu@ckeywords@title}{ }
608 </cfg>

```

\thu@first@titlepage

```

1.25      :      - 6.0  - 5.5  - 4.0  - 4.0      0
609 (*cls)
610 \newcommand\thu@underline[2][6em]{\hskip1pt\underline{\hb@xt@ #1{\hss#2\hss}}\hskip3pt}
611 \newlength{\thu@title@width}
612 \newcommand{\thu@put@title}[2][\thu@title@width]{%
613     \begin{CJKfilltwosides}{#1}#2\end{CJKfilltwosides}}
614 \def\thu@first@titlepage{%
615     \ifthu@postdoctor\thu@first@titlepage@postdoctor\else\thu@first@titlepage@other\fi}
616 \newcommand{\thu@first@titlepage@postdoctor}{
617     \begin{center}
618         \setlength{\thu@title@width}{3em}
619         \vspace*{0.7cm}
620         \begingroup\wuhao[1.5]%
621         \thu@put@title{\thu@catalog@number@title}\thu@underline\thu@catalognumber\hfill%
622         \thu@put@title{\thu@secretlevel}%
623         \expandafter\thu@underline\ifthu@secret\thu@secret@content\else\relax\fi\par
624         \thu@put@title{U D C}\thu@underline\thu@udc\hfill%
625         \thu@put@title{\thu@id@title}\thu@underline\thu@id\par\vskip3cm\endgroup
626         \begingroup\heiti
627             {\xiaochu\ziju{1}\thu@schoolname}\par\vskip2cm
628             {\xiaoyi\ziju{1}\thu@postdoctor@report@title}\par\vskip3cm
629             {\sanhao[1.5]\thu@ctitle}\par\vskip2cm
630             {\xiaor\thu@cauthor}
631         \endgroup
632         \par\vskip3cm
633         {\xiaosan[1.5]\ziju{1}\thu@schoolname\par\vskip0.5em\CJK@todayssmall@short}
634     \end{center}
635     \cleardoublepage
636     \begin{center}
637         \vspace*{2cm}
638         {\sihao\heiti\thu@ctitle\par\thu@etitle}\par
639         \parbox[t][7cm][b]{\textwidth-6cm}{\sihao[1.5]%
640             \setlength{\thu@title@width}{11em}
641             \setlength{\extrarowheight}{6pt}

```

```

642 \ifxetex % todo: ugly codes
643 \begin{tabular}{p{\thu@title@width}c}{l{\extracolsep{8pt}}l}
644 \else
645 \begin{tabular}{p{\thu@title@width}l}{l}
646 \fi
647 \thu@put@title{\thu@author@title}
648 & \thu@title@sep
649 & \thu@cauthor \\
650 \thu@put@title{\thu@postdoctor@first@discipline@title}
651 & \thu@title@sep
652 & \thu@cfirstdiscipline\\
653 \thu@put@title{\thu@postdoctor@second@discipline@title}
654 & \thu@title@sep
655 & \thu@cseconddiscipline\\
656 \thu@put@title{\thu@supervisor@title}
657 & \thu@title@sep
658 & \thu@csupervisor\\
659 \end{tabular}}
660 \vskip2cm
661 {\siahao\thu@postdoctor@date@title\hskip1em\underline\thu@postdoctordate}
662 \end{center}}
663 \newcommand{\thu@first@titlepage@other}{
664 \begin{center}
665 \vspace*{-1.6cm}
666 \parbox[b][2.4cm][t]{\textwidth}{%
667 \ifthu@secret\hfill{\siahao\thu@secretlevel\thu@secret@content}\else\rule{1cm}{0cm}\fi}
668 \ifthu@bachelor
669 \vskip0.45cm
670 {\yihao\lishu\ziju{0.3846}\thu@schoolname}
671 \par\vskip1.5cm
672 {\xiaochu\heiti\ziju{0.5}\thu@bachelor@subtitle}
673 \vskip2.2cm
674 \noindent\heiti\xiaoer\thu@bachelor@title@pre\thu@title@sep
675 \parbox[t]{12cm}{%
676 \ignorespaces\yihao[1.55]%
677 \renewcommand{\CJKunderlinebasesep}{0.25cm}%
678 \renewcommand{\ULthickness}{1.3pt}%
679 \ifxetex
680 \xeCJKsetup{underline/format=\color{black}}}%
681 \else
682 \def\CJKunderlinecolor{\color{black}}}%
683 \fi
684 \CJKunderline*{\thu@ctitle}}%
685 \vskip1.3cm
686 \else
687 \vskip0.8cm
688 \parbox[t][9cm][t]{\paperwidth-8cm}{
689 \renewcommand{\baselinestretch}{1.3}
690 \begin{center}
691 \yihao[1.2]{\sffamily\heiti\thu@ctitle}\par
692 \par\vskip 18bp
693 \xiaoer[1] \textrm{\thu@apply}
694 \end{center}}
695 \fi

696 \ifthu@bachelor
697 \vskip1cm
698 \parbox[t][7.0cm][t]{\textwidth}{%

```

```

699     {\fangsong\sanhao[1.8]%
700     \hspace*{1.65cm}
701     \setlength{\thu@title@width}{4em}
702     \setlength{\extrarowheight}{6pt}
703     \ifxetex % todo: ugly codes
704     \begin{tabular}{p{\thu@title@width}@{}l@{\extracolsep{8pt}}l}
705     \else
706     \begin{tabular}{p{\thu@title@width}l@{}l}
707     \fi
708     \thu@put@title{\thu@department@title} & \thu@title@sep
709     & \thu@cdepartment\\
710     \thu@put@title{\thu@major@title} & \thu@title@sep
711     & \thu@cmajor\\
712     \thu@put@title{\thu@author@title} & \thu@title@sep
713     & \thu@cauthor \\
714     \thu@put@title{\thu@supervisor@title} & \thu@title@sep
715     & \thu@csupervisor\\
716     \ifx\thu@cassosupervisor\@empty\else%
717     \thu@put@title{\thu@assosuper@title} & \thu@title@sep
718     & \thu@cassosupervisor\\
719     \fi
720     \end{tabular}
721     }}
722 \else
723     \vskip 5bp
724     \parbox[t][7.8cm][t]{\textwidth}{\sanhao[1.5]
725     \begin{center}\fangsong
726     \setlength{\thu@title@width}{5em}
727     \setlength{\extrarowheight}{4pt}
728     \ifxetex % todo: ugly codes
729     \begin{tabular}{p{\thu@title@width}@{}c@{\extracolsep{8pt}}l}
730     \else
731     \begin{tabular}{p{\thu@title@width}c@{\extracolsep{4pt}}l}
732     \fi
733     \thu@put@title{\thu@department@title} & \thu@title@sep
734     & {\ziju{0.1875}\thu@cdepartment}\\
735     \thu@put@title{\thu@major@title} & \thu@title@sep
736     & {\ziju{0.1875}\thu@cmajor}\\
737     \thu@put@title{\thu@author@title} & \thu@title@sep
738     & {\ziju{0.6875}\thu@cauthor}\\
739     \thu@put@title{\thu@supervisor@title} & \thu@title@sep
740     & {\ziju{0.6875}\thu@csupervisor}\\
741     \ifx\thu@cassosupervisor\@empty\else
742     \thu@put@title{\thu@assosuper@title} & \thu@title@sep
743     & {\ziju{0.6875}\thu@cassosupervisor}\\
744     \fi
745     \ifx\thu@ccosupervisor\@empty\else
746     \hfill\makebox[0pt][r]{\thu@cosuper@title} & \thu@title@sep
747     & {\ziju{0.6875}\thu@ccosupervisor}\\
748     \fi
749     \end{tabular}
750     \end{center}}
751     \fi

752 \begin{center}
753 {\ifthu@bachelor\vskip-1.0cm\hskip-1.2cm\xiaosi\else%
754 \vskip-0.5cm\sanhao\fi%
755 \songti\thu@cdate}

```



```

756 \end{center}
757 \end{center}} % end of titlepage
758 </cls>

```

`\thu@doctor@engcover`

```

759 <*cfg>
760 \def\thu@master@art{Master of Arts}
761 \def\thu@master@sci{Master of Science}
762 \def\thu@doctor@phi{Doctor of Philosophy}
763 </cfg>
764 <*cls>
765 \newcommand{\thu@engcover}{%
766 \newif\ifthu@professional\thu@professionalfalse
767 \ifthu@master
768 \ifthenelse{\equal{\thu@edegree}{\thu@master@art}}
769 {\relax}
770 {\ifthenelse{\equal{\thu@edegree}{\thu@master@sci}}
771 {\relax}
772 {\thu@professionaltrue}}
773 \fi
774 \ifthu@doctor
775 \ifthenelse{\equal{\thu@edegree}{\thu@doctor@phi}}
776 {\relax}
777 {\thu@professionaltrue}
778 \fi
779 \begin{center}
780 \vspace*{-5pt}
781 \parbox[t][5.2cm][t]{\paperwidth-7.2cm}{
782 \renewcommand{\baselinestretch}{1.5}
783 \begin{center}
784 \erhao[1.1]\bfseries\sffamily\thu@etitle
785 \end{center}}
786 \parbox[t][][t]{\paperwidth-7.2cm}{
787 \renewcommand{\baselinestretch}{1.3}
788 \begin{center}
789 \sanhao
790 \ifthu@master Thesis \else Dissertation \fi
791 Submitted to\\
792 {\bfseries Tsinghua University}\\
793 in partial fulfillment of the requirement\\
794 for the \ifthu@professional professional \fi
795 degree of\\
796 {\bfseries\sffamily\thu@edegree}
797 \ifthu@professional\relax\else
798 \in[3bp]
799 {\bfseries\sffamily\thu@emajor}
800 \fi
801 \end{center}}
802 \parbox[t][][b]{\paperwidth-7.2cm}{
803 \renewcommand{\baselinestretch}{1.3}
804 \begin{center}
805 \sanhao\sffamily by[3bp]
806 \bfseries\thu@eauthor
807 \ifthu@professional
808 \ifx\thu@emajor\empty\relax\else
809 \(\sim\thu@emajor\sim\)
810 \fi\fi
811 \end{center}}

```

```

812 \par\vspace{0.9cm}
813 \parbox[t][2.1cm][t]{\paperwidth-7.2cm}{
814 \renewcommand{\baselinestretch}{1.2}\xiaosan\centering
815 \begin{tabular}{rl}
816 \ifthu@master Thesis \else Dissertation \fi
817 Supervisor : & \thu@supervisor\\
818 \ifx\thu@eassosupervisor\@empty
819 \else Associate Supervisor : & \thu@eassosupervisor\\
820 \ifx\thu@ecosupervisor\@empty
821 \else Cooperate Supervisor : & \thu@ecosupervisor\\
822 \end{tabular}}
823 \parbox[t][2cm][b]{\paperwidth-7.2cm}{
824 \begin{center}
825 \sanhao\bfseries\sffamily\thu@edate
826 \end{center}}
827 \end{center}}

```

`\thu@authorization@mk`

```

828 \newcommand{\thu@authorization@mk}{%
829 \ifthu@bachelor\vspace*{0.2cm}\else\vspace*{0.42cm}\fi % shit code!
830 \begin{center}\erhao\heiti\thu@authtitle\end{center}
831 \ifthu@bachelor\vskip5pt\else\vskip40pt\sihao[2.03]\fi\par
832 \thu@authorization\par
833 \textbf{\thu@authorizationaddon}\par
834 \ifthu@bachelor\vskip0.7cm\else\vskip1.0cm\fi
835 \ifthu@bachelor
836 \indent\mbox{\thu@authorsig\thu@underline\relax%
837 \thu@teachersig\thu@underline\relax\thu@frontdate\thu@underline\relax}
838 \else
839 \begin{group
840 \parindent0pt\xiaosi
841 \hspace*{1.5cm}\thu@authorsig\thu@underline[7em]\relax\hfill%
842 \hspace*{1.5cm}\thu@teachersig\thu@underline[7em]\relax\hspace*{1cm}\\[3pt]
843 \hspace*{1.5cm}\thu@frontdate\thu@underline[7em]\relax\hfill%
844 \hspace*{1.5cm}\thu@frontdate\thu@underline[7em]\relax\hspace*{1cm}
845 \end{group}
846 \fi}

```

`\makecover`

```

847 \def\makecover{%
848 \thu@setup@pdfinfo\thu@makecover}
849 \def\thu@setup@pdfinfo{%
850 \hypersetup{%
851 pdftitle={\thu@ctitle},
852 pdfauthor={\thu@cauthor},
853 pdfsubject={\thu@cdegree},
854 pdfkeywords={\thu@ckeywords},
855 pdfcreator={\thuthesis-v\version}}
856 \NewDocumentCommand{\thu@makecover}{o}{
857 \phantomsection
858 \pdfbookmark[-1]{\thu@ctitle}{ctitle}
859 \normalsize%
860 \begin{titlepage}

861 \thu@first@titlepage

862 \ifthu@bachelor\relax\else

```

```

863     \ifthu@postdoctor\relax\else
864     \cleardoublepage\thu@engcover
865     \fi\fi

866     \ifthu@postdoctor\relax\else%
867     \ifthu@bachelor\clearpage\else\cleardoublepage\fi%
868     \IfNoValueTF{#1}{%
869     \ifthu@bachelor\thu@authorization@mk\else%
870     \begin{list}{}{%
871     \topsep\z@%
872     \listparindent\parindent%
873     \parsep\parskip%
874     \setlength{\leftmargin}{0.9mm}%
875     \setlength{\rightmargin}{0.9mm}}%
876     \item[]\thu@authorization@mk%
877     \end{list}%
878     \fi%
879     }{%
880     \includepdf{#1}%
881     }%
882     \fi
883     \end{titlepage}

884     \normalsize
885     \thu@makeabstract
886     \let\@tabular\thu@tabular}
887 </cls>

```

## 5.5.11

## \thu@put@keywords

```

888 <*cls>
889 \newbox\thu@kw
890 \newcommand\thu@put@keywords[2]{%
891     \begingroup
892     \setbox\thu@kw=\hbox{#1}
893     \ifthu@bachelor\indent\else\noindent\hangindent\wd\thu@kw\hangafter1\fi%
894     \box\thu@kw#2\par
895     \endgroup}

```

## \thu@makeabstract

```

896 \newcommand{\thu@makeabstract}{%
897     \ifthu@bachelor\clearpage\else\cleardoublepage\fi
898     \thu@chapter*[]{\cabstractname} % no tocline
899     \ifthu@bachelor
900     \pagestyle{thu@plain}
901     \else
902     \pagestyle{thu@headings}
903     \fi
904     \pagenumbering{Roman}
905     Times New Roman

905     \thu@cabstract

906     \vskip12bp
907     \thu@put@keywords{\heiti\thu@ckeywords@title}{\thu@ckeywords}

```

```

        Abstract   Arial
908 \thu@chapter*[]{\eabstractname} % no tocline
        Times New Roman
909 \thu@eabstract

910 \vskip12bp
911 \thu@put@keywords{%
912 \textbf{\ifthu@bachelor Keywords:\else Key words:\fi\enskip}}{\thu@keywords}}
913 </cls>

```

## 5.5.12

## denotation

```

914 <*cfg>
915 \newcommand{\thu@denotation@name}{ }
916 </cfg>
917 <*cls>
918 \newenvironment{denotation}[1][2.5cm]{%
919 \thu@chapter*[]{\thu@denotation@name} % no tocline
920 \vskip-30bp\xiaosi[1.6]\begin{thu@denotation}[labelwidth=#1]
921 }{%
922 \end{thu@denotation}
923 }
924 \newlist{thu@denotation}{description}{1}
925 \setlist[thu@denotation]{%
926 nosep,
927 font=\normalfont,
928 align=left,
929 leftmargin=!, % sum of the following 3 lengths
930 labelindent=0pt,
931 labelwidth=2.5cm,
932 labelsep*=0.5cm,
933 itemindent=0pt,
934 }
935 </cls>

```

## 5.5.13

## acknowledgement

```

936 <*cfg>
937 \newcommand{\thu@ackname}{ \hspace{1em} }
938 \newcommand{\thu@declarename}{ \hspace{1em} }
939 \newcommand{\thu@declaretext}{
940
941
942 }
943 \newcommand{\thu@signature}{ \hspace{1em} }
944 \newcommand{\thu@backdate}{ \hspace{1em} }
945 </cfg>

946 <*cls>
947 \NewDocumentEnvironment{acknowledgement}{o}{%
948 \thu@chapter*{\thu@ackname}
949 }

950 {

```

```

951 \ifthu@postdoctor\relax\else%
952 \IfNoValueTF{#1}{%
953 \thu@chapter*{\thu@declarename}
954 \par{\xiaosi\parindent2em\thu@declaretext}\vskip2cm
955 {\xiaosi\hfill\thu@signature\thu@underline[2.5cm]\relax%
956 \thu@backdate\thu@underline[2.5cm]\relax}%
957 }{%
958 \includepdf[pagecommand={\thispagestyle{thu@empty}}%
959 \phantomsection\addcontentsline{toc}{chapter}{\thu@declarename}%
960 }]{#1}%
961 }%
962 \fi
963 }

```

**ack**      **ack**

```

964 \let\ack\acknowledgement
965 \let\endack\endacknowledgement
966 </cls>

```

### 5.5.14

**\listoffigures**

**\listoffigures\***

**\listoftables**

**\listoftables\***

```

967 <*cls>
968 \def\thu@starttoc#1{% #1: float type, prepend type name in \listof*** entry.
969 \let\oldnumberline\numberline
970 \def\numberline##1{\oldnumberline{\csname #1name\endcsname\hspace{4em} ##1}}
971 \@starttoc{\csname ext@#1\endcsname}
972 \let\numberline\oldnumberline}
973 \def\thu@listof#1{% #1: float type
974 \@ifstar
975 {\thu@chapter*[\csname list#1name\endcsname]\thu@starttoc{#1}}
976 {\thu@chapter*\csname list#1name\endcsname\thu@starttoc{#1}}}
977 \renewcommand\listoffigures{\thu@listof{figure}}
978 \renewcommand*\l@figure{\addvspace{6bp}\@dottedtocline{1}{0em}{4em}}
979 \renewcommand\listoftables{\thu@listof{table}}
980 \let\l@table\l@figure

```

**\equcaption**

**caption**

**equation**

**\equcaption**

```

\equcaption{<counter>}
{<counter>} \theequation    amsmath \tag    \tag

```

```

981 \def\ext@equation{loe}
982 \def\equcaption#1{%
983 \addcontentsline{\ext@equation}{equation}%
984 {\protect\numberline{#1}}}

```

**\listofequations**

**L<sup>A</sup>T<sub>E</sub>X**

**\listofequations**

**\listofequations\***

```

985 \newcommand\listofequations{\thu@listof{equation}}
986 \let\l@equation\l@figure
987 </cls>

```

### 5.6

**\inlinecite**

**natbib**

**\onlinecite**

```

988 <*cls>
989 \bibpunct{[ ]}{,}{s}{-}{,}
990 \renewcommand\NAT@citesuper[3]{\ifNAT@swa%
991 \unskip\kern\p@\textsuperscript{\NAT@open #1\NAT@close}%
992 \if*#3*\else\ (#3)\fi\else #1\fi\endgroup}

```

```

993 \DeclareRobustCommand\inlinecite{\@inlinecite}
994 \def\@inlinecite#1{\begingroup\let\@cite\NAT@citenum\citep{#1}\endgroup}
995 \let\onlinecite\inlinecite

16      3      0      17pt      3pt

\thudot                                @preamble      bib

996 \def\thudot{\ifthu@bachelor\else\unskip.\fi}
997 </cls>

\thumasterbib      “[Master Thesis]”      2007      “[M]”      “[Phd Thesis]” “[D]”      (201109)
\thuphdbib      “[ ]”      “[ ]”      “[D]”      “[D]”

998 <*cfg>
999 \def\thumasterbib{\ifthu@bachelor [D]\else [ ]\fi}
1000 \def\thuphdbib{\ifthu@bachelor [D]\else [ ]\fi}
1001 </cfg>

thebibliography      thebibliography

1002 <*cls>
1003 \renewenvironment{thebibliography}[1]{%
1004   \thu@chapter*{\bibname}%
1005   \wuhao[1.5]
1006   \list{\@biblabel{\@arabic\c@enumiv}}{%
1007     {\renewcommand{\makelabel}[1]{##1\hfill}
1008     \settowidth\labelwidth{1.1cm}
1009     \setlength{\labelsep}{0.4em}
1010     \setlength{\itemindent}{0pt}
1011     \setlength{\leftmargin}{\labelwidth+\labelsep}
1012     \addtolength{\itemsep}{-0.7em}
1013     \usecounter{enumiv}%
1014     \let\p@enumiv\@empty
1015     \renewcommand\theenumiv{\@arabic\c@enumiv}}%
1016   \sloppy\frenchspacing
1017   \clubpenalty4000
1018   \@clubpenalty \clubpenalty
1019   \widowpenalty4000%
1020   \interlinepenalty4000%
1021   \sfcode`.\@m}
1022   {\def\@noitemerr
1023     {\@latex@warning{Empty `thebibliography' environment}}%
1024     \endlist\frenchspacing}
1025 </cls>

5.7

appendix

1026 <*cls>
1027 \let\thu@appendix\appendix
1028 \renewenvironment{appendix}{%
1029   \let\title\thu@appendix@title
1030   \thu@appendix}{%
1031   \let\title\@gobble}

\title      \title{< >}

1032 \let\title\@gobble
1033 \newcommand{\thu@appendix@title}[1]{%
1034   \begin{center}
1035     \bfseries\xiaosi #1
1036   \end{center}}

```

translationbib

17pt 3pt

```

1037 \newlist{translationbib}{enumerate}{1}
1038 \setlist[translationbib]{label=[\arabic*],align=left,nosep,itemsep=6bp,
1039   leftmargin=10mm,labelsep=!,before=\vspace{0.5\baselineskip}\wuhao[1.3]}
1040 </cls>

```

## 5.8

resume

```

1041 <*cfg>
1042 \ifthu@bachelor
1043   \newcommand{\thu@resume@title}{      }
1044 \else
1045   \ifthu@postdoctor
1046     \newcommand{\thu@resume@title}{      }
1047   \else
1048     \newcommand{\thu@resume@title}{      }
1049   \fi
1050 \fi
1051 </cfg>
1052 <*cls>
1053 \newenvironment{resume}[1][\thu@resume@title]{%
1054   \thu@chapter*{#1}}{}

```

\resumeitem

```

1055 \newcommand{\resumeitem}[1]{%
1056   \vspace{24bp}{\sihao\heiti\centerline{#1}}\par\vspace{6bp}}

```

\researchitem

```

\researchitem{< >} “ ” “ ”
1057 \newcommand{\researchitem}[1]{%
1058   \vspace{32bp}{\sihao\heiti\centerline{#1}}\par\vspace{14bp}}

```

publications

publications achievements

achievements

```

1059 \newlist{publications}{enumerate}{1}
1060 \setlist[publications]{label=[\arabic*],align=left,nosep,itemsep=8bp,
1061   leftmargin=10mm,labelsep=!,before=\xiaosi[1.26],resume}
1062 \newlist{achievements}{enumerate}{1}
1063 \setlist[achievements]{label=[\arabic*],align=left,nosep,itemsep=8bp,
1064   leftmargin=10mm,labelsep=!,before=\xiaosi[1.26]}

```

\publicationskip

```

publications \publicationskip
1065 \def\publicationskip{\bigskip\bigskip}
1066 </cls>

```

## 5.9

\shuji

```

1067 <*cls>
1068 \NewDocumentCommand{\shuji}{0{0{\thu@ctitle} 0{\thu@cauthor}}}{%
1069   \newpage\thispagestyle{empty}\fangsong\xiaosan\ziju{0.4}%
1070   \noindent\hfill\rotatebox[origin=lt]{-90}{\makebox[\textheight]{#1\hfill#2}}}
1071 </cls>

```

## 5.10

\pozhehao

“\_\_\_\_\_”

```

1072 <*cfg>
1073 \newcommand{\pozhehao}{--}
1074 </cfg>

```

## 5.11

```

1075 <*cls>
1076 \AtEndOfClass{\input{thuthesis.cfg}}
1077 \AtEndOfClass{\sloppy}
1078 </cls>

```

## 6

v1.0	General: Please refer to “Bao–Pan” version. . . . .	1	\ps@thu@headings: . . . . .	21
v1.1	General: Initial version, migrate from the old “Bao–Pan” version. Make the template a class instead of package. . . . .	1	\tableofcontents: . . . . .	26
			\thu@first@titlepage: . . . . .	31
			v2.0e	
			denotation: list . . . . .	36
			v2.1	
v1.2	General: Remove fancyref; Remove ucite and implement \onlinecite; use package arial or helvet selectively. . . . .	1	General: Add \checklab code to reduce “unresolved labels” warning . . . . .	1
			Add support to bachelor thesis. . . . .	1
			Merge the modification of ntheorem. . . . .	1
v1.3	General: Replace subfigure with subfig, replace caption2 with caption, add details about using figure are in the example. . . . .	1	Redefine footnote marks. . . . .	1
			Remove fancyhdr and geometry. . . . .	1
			Remove footmisc and refine the document. . . . .	1
			Replace thubib.bst with chinesebst.bst. . . . .	1
v1.4	General: Fix the problem of chinese, which is because both CJK and everyisel redefine the \selectfont. So, a not so good workaround is merge them up. Add shuji.tex example. Add \pozhehao command. . . . .	1	Work very hard on the document. . . . .	21
			\makecover: macro . . . . .	34
			\pozhehao: \pozhehao . . . . .	40
			\ps@thu@headings: fancyhdr . . . . .	21
			\thu@first@titlepage: . . . . .	31
			v2.2	
v1.4rc1	General: I do not know why \thu@authorizationaddon does not work now for v1.3, while it’s fine in v1.2. Temporarily, I remove the directive :(. There might be better solution. Other changes: add config option to subfig to be compatible with subfigure. add courier package for tt font. . . . .	1	General: Add bachelor training overview details supporting. . . . .	1
	I have to put all chinese chars into cfg, otherwise they would not appear. . . . .	29	Adjust hyperref to avoid boxes around links. . . . .	1
			Adjust margins. How bad it is to simulate MS WORD. . . . .	1
			CJK support in preamble. . . . .	1
			v2.3	
v1.5	acknowledgement: \cleardoublepage \addcontentsline chapter . . . . .	36	General: Add assumption environment. . . . .	1
	resume: \cleardoublepage \markboth \addcontentsline . . . . .	39	Add gb2uni into the document. . . . .	1
			Adjust \hypersetup to remove color and box. . . . .	1
			Adjust margins again. . . . .	1
			Adjust references formats. . . . .	1
			Change the brace in the cover. . . . .	1
			Fix a great bug: \PassOptionsToClass and \LoadClass rather than \PassOptionToPackage and \LoadPackage. . . . .	1
v2.0	General: . . . . .	27	Redefine frontmatter and mainmatter to fit our case. . . . .	1
	acknowledgement: . . . . .	36		
	resume: resume . . . . .	39		



Reorganize the codes in cover, make the pagestyle more readable. ....	1	subfigure subtable caption ....	23
Support openright and openany. ....	1	.....	16
v2.4		dvips PDF $\LaTeX$ .....	1
General: thubib.bst .....	1	.....	22
Fill more pdf info. with \hypersetup. ....	1	openright openany .....	17
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In: Proceedings .....	1	.....	1
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.....	1	\chapter* \markboth .....	25
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words.		31
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