

L^AT_EX Academic Work Templates User Guide

Software requirements and recommendations

1. Make sure you have a working L^AT_EX distribution (e.g. [MiKTeX](#) on Windows, [TeXLive](#) on GNU/Linux, [MacTeX](#) on Mac OS X) installed on your system (mandatory).
2. Have yourself at least a good text editor (e.g. [Notepad++](#) on Windows) or preferably a L^AT_EX IDE (e.g. [TeXMaker](#), which is free and cross-platform).
3. To easily create appealing diagrams of systems or processes, use e.g. [LibreOffice Draw](#). For more complex work, a full-fledged vector graphics application such as e.g. [Inkscape](#) is strongly recommended. Always make sure to export vector graphics in the PDF format for use with the L^AT_EX templates.
4. Rasterized graphics (e.g. photographs) appear in various formats such as BMP, JPG, TGA, RAS, PNG etc. Those can be edited with a raster graphics application such as the GNU Image Manipulation Program ([GIMP](#)). Make sure to export uncompressed JPG or (preferably) PNG files for use with the L^AT_EX templates and save them at the appropriate resolution for the printing stage (e.g. 300 dpi). Batch format conversion/resizing/filtering of large file numbers is done best with the command-line application [ImageMagick](#).

5. For the reviewing of the resulting PDF documents prior to printing, it is recommended to use a PDF viewer optimized for screen display (e.g. MuPDF) rather than Adobe Reader.

L^AT_EX Toolchain and Buildscript

The templates rely on both the BibTeX and MakeIndex programs to build the chapters „List of Abbreviations” (Glossary) and „Bibliography” automatically from the respective files `/glossary/glossary.tex` and `/bibliography/bibliography.bib`, thus requiring the following L^AT_EX Toolchain :

1. PDFLaTeX
2. BibTeX
3. MakeIndex (Glossary)
4. MakeIndex (Acronyms)
5. PDFLaTeX (2x)

When using the TeXMaker IDE, simply configure the „Quick Build” (Main Menu : Options → Configure TeXMaker → Quick Build → User) as follows :

```
pdflatex -synctex=1 -interaction=nonstopmode %.tex | bibtex % | makeindex -s  
%.ist -t %.gls -o %.gls %.gls | makeindex -s %.ist -t %.alg -o %.acr %.acn |  
pdflatex -synctex=1 -interaction=nonstopmode %.tex | pdflatex -synctex=1  
-interaction=nonstopmode %.tex
```



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Windows users may alternatively use the batch script `build.bat` to simply build the document on Windows systems, it is invoked with the document basename (without extension) as the first parameter. To do so, open up a command line window (`cmd.exe`), `cd` to the template folder and build e.g. `project_work.tex` with the command `build project_work`. The batch script automatically removes all unnecessary files generated by the \LaTeX toolchain and overwrites the PDF document, i.e. `project_work.pdf`.

```
cmd C:\Windows\system32\cmd.exe
C:\>cd C:\Users\Studenten\Downloads\LaTeX-Templates\project_work
C:\Users\Studenten\Downloads\LaTeX-Templates\project_work>dir
Datenträger in Laufwerk C: ist System
Volumer Seriennummer: 0E66-B04B

Verzeichnis von C:\Users\Studenten\Downloads\LaTeX-Templates\project_work

02.06.2015 13:48 <DIR>          .
02.06.2015 13:48 <DIR>          ..
02.06.2015 10:01 <DIR>          bibliography
02.06.2015 11:09          569 build.bat
02.06.2015 10:01 <DIR>          chapters
02.06.2015 10:01 <DIR>          glossary
02.06.2015 10:01 <DIR>          images
01.06.2015 17:24          495.383 project_work.pdf
01.06.2015 17:24          5.496 project_work.tex
02.06.2015 10:01 <DIR>          texmaker
                   3 Datei(en),          501.448 Bytes
                   7 Verzeichnis(se), 3.946.647.552 Bytes frei

C:\Users\Studenten\Downloads\LaTeX-Templates\project_work>build project_work
Building project_work ..
This is pdfTeX, Version 3.1415926-2.5-1.40.14 (MiKTeX 2.9)
entering extended mode
libpng warning: iCCP: profile 'ICC Profile': 'CMYK': invalid ICC profile color space
libpng warning: iCCP: known incorrect sRGB profile
SyncTeX written on project_work.synctex.gz.This is BibTeX, Version 0.99d (MiKTeX 2.9)
The top-level auxiliary file: project_work.aux
The style file: unsrnat.bst
Database file #1: bibliography/bibliography.bib
This is makeindex, version 2.15 (MiKTeX 2.9) (kpathsea + Thai support).
Scanning style file C:/Users/Studenten/Downloads/LaTeX-Templates/project_work/project_work.ist.....done (29 attributes redefined, 0 ignored).
Scanning input file project_work.glo...done (2 entries accepted, 0 rejected).
Sorting entries...done (2 comparisons).
Generating output file project_work.gls....done (9 lines written, 0 warnings).
Output written in project_work.gls.
Transcript written in project_work.glg.
This is makeindex, version 2.15 (MiKTeX 2.9) (kpathsea + Thai support).
Scanning style file C:/Users/Studenten/Downloads/LaTeX-Templates/project_work/project_work.ist.....done (29 attributes redefined, 0 ignored).
Scanning input file project_work.acn...done (0 entries accepted, 0 rejected).
Nothing written in project_work.acr.
Transcript written in project_work.alg.
This is pdfTeX, Version 3.1415926-2.5-1.40.14 (MiKTeX 2.9)
entering extended mode
libpng warning: iCCP: profile 'ICC Profile': 'CMYK': invalid ICC profile color space
libpng warning: iCCP: known incorrect sRGB profile
SyncTeX written on project_work.synctex.gz.This is pdfTeX, Version 3.1415926-2.5-1.40.14 (MiKTeX 2.9)
entering extended mode
libpng warning: iCCP: profile 'ICC Profile': 'CMYK': invalid ICC profile color space
libpng warning: iCCP: known incorrect sRGB profile
SyncTeX written on project_work.synctex.gz.Cleaning up ...
Done.
C:\Users\Studenten\Downloads\LaTeX-Templates\project_work>
```

For users of unix-like operating systems (GNU/Linux, Mac OS X), the same functionality is given with the Bash script `build.sh`, which is also invoked with the document basename as the first parameter. To do so, open up a Unix shell (e.g. `/bin/bash`), `cd` to the template folder, `chmod +x build.sh`, then build e.g. `project_work.tex` with the command `./build.sh project_work`. The script automatically removes all unnecessary files generated by the \LaTeX toolchain and overwrites the PDF document, i.e. `project_work.pdf`.

```
ubuntu@ubuntu: ~/Desktop/LaTeX-Templates/project_work
ubuntu@ubuntu:~/Desktop/LaTeX-Templates/project_work$ ls -l
total 476
drwxr-xr-x 2 ubuntu ubuntu   60 Jun  2 14:35 bibliography
-rwxr-xr-x 1 ubuntu ubuntu  569 Jun  2 14:31 build.bat
-rwxr-xr-x 1 ubuntu ubuntu  563 Jun  2 15:11 build.sh
drwxr-xr-x 2 ubuntu ubuntu  220 Jun  2 14:35 chapters
drwxr-xr-x 2 ubuntu ubuntu   60 Jun  2 14:35 glossary
drwxr-xr-x 2 ubuntu ubuntu  100 Jun  2 14:35 images
-rw-r--r-- 1 ubuntu ubuntu 470543 Jun  2 14:31 project_work.pdf
-rw-r--r-- 1 ubuntu ubuntu   5200 Jun  2 14:22 project_work.tex
ubuntu@ubuntu:~/Desktop/LaTeX-Templates/project_work$ chmod +x build.sh
ubuntu@ubuntu:~/Desktop/LaTeX-Templates/project_work$ ./build.sh project_work
Building ...
This is pdfTeX, Version 3.14159265-2.6-1.40.15 (TeX Live 2015/dev/Debian) (preloaded format=pdflatex)
 restricted \write18 enabled.
entering extended mode

SyncTeX written on project_work.synctex.gz.This is BibTeX, Version 0.99d (TeX Live 2015/dev/Debian)
The top-level auxiliary file: project_work.aux
The style file: unsrnat.bst
Database file #1: bibliography/bibliography.bib
This is makeindex, version 2.15 [TeX Live 2015/dev] (kpathsea + Thai support).
Scanning style file ./project_work.ist.....done (29 attributes redefined, 0 ig
nored).
Scanning input file project_work.glo....done (2 entries accepted, 0 rejected).
Sorting entries....done (2 comparisons).
Generating output file project_work.gls....done (9 lines written, 0 warnings).
Output written in project_work.gls.
Transcript written in project_work.glg.
This is makeindex, version 2.15 [TeX Live 2015/dev] (kpathsea + Thai support).
Scanning style file ./project_work.ist.....done (29 attributes redefined, 0 ig
nored).
Scanning input file project_work.acn....done (0 entries accepted, 0 rejected).
Nothing written in project_work.acr.
Transcript written in project_work.alg.
This is pdfTeX, Version 3.14159265-2.6-1.40.15 (TeX Live 2015/dev/Debian) (preloaded format=pdflatex)
 restricted \write18 enabled.
entering extended mode

SyncTeX written on project_work.synctex.gz.This is pdfTeX, Version 3.14159265-2.6-1.40.15 (TeX Live 20
15/dev/Debian) (preloaded format=pdflatex)
 restricted \write18 enabled.
entering extended mode

SyncTeX written on project_work.synctex.gz.Cleaning up ...
Done.
ubuntu@ubuntu:~/Desktop/LaTeX-Templates/project_work$
```