

Getting Started with Your Research Proposal Template in LaTeX

Before You Begin:

Make sure you've followed the **installation guide provided**. This ensures that TeX Live and TeXstudio are correctly set up on your computer.

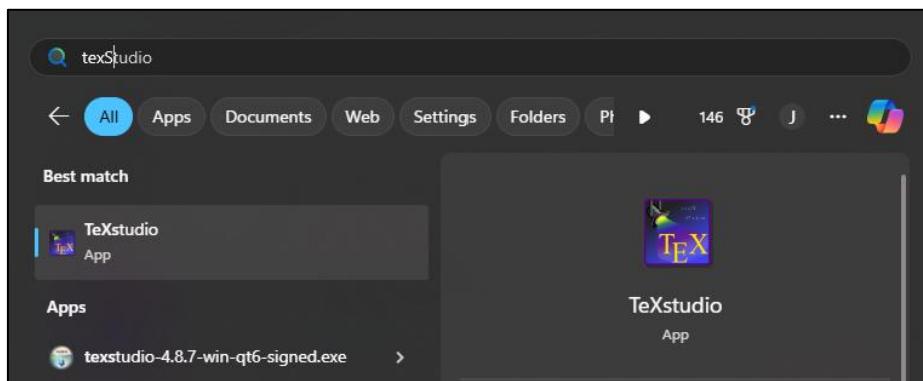
◆ Step 1: Open the Template Folder in TeXstudio

Included in the installation guide are steps on how to open and run LaTeX. For convenience, they are repeated here:

Remember to extract the ZIP file into an appropriate location before continuing.

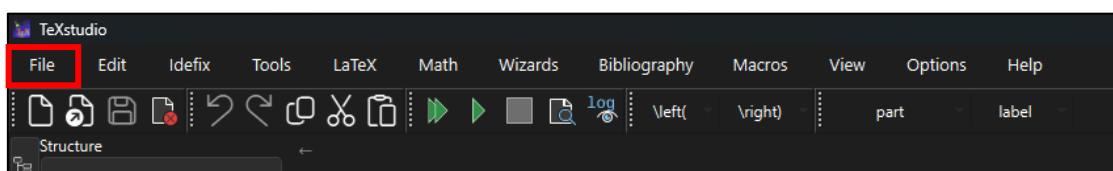
◆ Open LaTeX

1. Open **TexStudio** (search for it in the Start Menu).

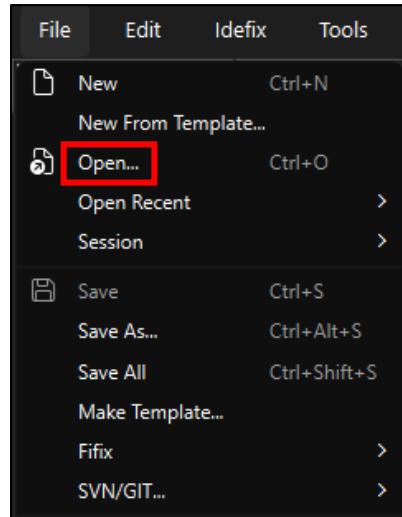


2. Open the **.tex** file.

- Click on “**File**” in the main menu.



- Select “**Open...**” in the menu.

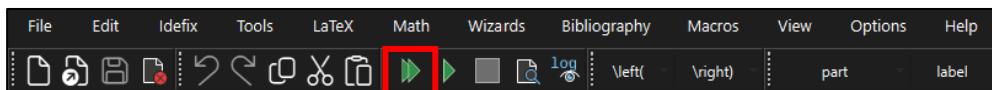


- Navigate to where you installed the template and double-click on the “.tex” file.

Name	Date modified	Type	Size
template_images	06 May 2025 14:22	File folder	
cover_and_title_pages.cls	07 May 2025 10:55	MiKTeX.cls.2.9	4 KB
library.bib	06 May 2025 16:23	MiKTeX.bib.2.9	2 KB
proposal_template.aux	07 May 2025 13:29	AUX File	7 KB
proposal_template.bbl	06 May 2025 16:23	BBL File	3 KB
proposal_template.blg	06 May 2025 16:23	Performance Mon...	2 KB
proposal_template.lof	07 May 2025 13:29	LOF File	1 KB
proposal_template.log	07 May 2025 13:29	Text Document	51 KB
proposal_template.lot	07 May 2025 13:29	LOT File	1 KB
proposal_template.out	07 May 2025 13:29	OUT File	4 KB
proposal_template.pdf	07 May 2025 13:29	Adobe Acrobat D...	554 KB
proposal_template.synctex.gz	07 May 2025 13:29	Compressed Archi...	47 KB
proposal_template.tex	07 May 2025 10:37	tex File	27 KB
proposal_template.toc	07 May 2025 13:29	TOC File	2 KB
proposal_template_style.sty	07 May 2025 10:36	LaTeX Style	6 KB
texput.log	07 May 2025 10:55	Text Document	1 KB

◆ Open LaTeX

- Press **F5** or click the double-green arrow / “Play” button to the template!



- The PDF should appear on the right side.

! If the PDF doesn't appear:

- Make sure you're using **XeLaTeX** under Tools → Commands → XeLaTeX
- Double-check that **all files** are present in the same folder.

Errors will appear in the terminal at the bottom:



The screenshot shows a terminal window with tabs for 'Messages', 'Log', 'Preview', and 'Search Results'. The 'Log' tab is active, displaying the following text:

```
%!TeX program used: xelatex
Process started: xelatex.exe -synctex=1 -interaction=nonstopmode "proposal_template".tex
dvipdfmx:fatal: Unable to open "proposal_template.pdf". No output PDF file written.

Sorry, but xelatex.exe did not succeed. The log file hopefully contains the information to get MiKTeX going again: C:\Users\jocel\AppData\Local\MiKTeX\log\xelatex.log
Process exited with error(s)
```

◆ Step 2: Fill in Your Personal Information

At the top of the document (under `\renewcommand{...}`), update the following fields:

```
% === Title Page ===

\renewcommand{\proposal}{Master's/PhD Proposal}
\renewcommand{\modulecode}{Module code – CSIS8900/CSIS9100}
\renewcommand{\thesistitle}{Title of
dissertation/thesis...}
\renewcommand{\initials}{Initials}
\renewcommand{\surname}{Surname}
\renewcommand{\studentnum}{Student number}
\renewcommand{\submissiondate}{Date}

% === Cover Page ===

\renewcommand{\fullnames}{\hl{Full names and surname of
student}}
\renewcommand{\degree}{\hl{MAGISTER SCIENTIAE /
PHILOSOPHIAE DOCTOR}}
\renewcommand{\proposaltypes}{\hl{(Computer Information
Systems / Computer Science \& Informatics / Data Science)}}
\renewcommand{\supervisor}{\hl{Title Initials. Surname}}
\renewcommand{\cosupervisor}{\hl{Title Initials. Surname}}
\renewcommand{\proposalmonth}{\hl{Month}}
\renewcommand{\proposalyear}{\hl{Year}}
```

Tip: Yellow-highlighted placeholders in the PDF indicate areas you still need to update they use the `\hl{}` command.

<p style="text-align: center;">Title of dissertation/thesis...</p> <p style="text-align: center;">by</p> <p style="text-align: center;">Full names and surname of student</p> <p style="text-align: center;">Proposal submitted in partial fulfilment of the requirements in respect of the degree</p> <p style="text-align: center;">MAGISTER SCIENTIAE / PHILOSOPHIAE DOCTOR (Computer Information Systems / Computer Science & Informatics / Data Science)</p> <p style="text-align: center;">in the Department of Computer Science and Informatics in the Faculty of Natural and Agricultural Sciences at the University of the Free State</p> <p style="text-align: center;"> UNIVERSITY OF THE FREE STATE UNIVERSITEIT VAN DIE VRYSTAAT YUNIVESITHI YA FREISTATA</p> <p style="text-align: center;">Bloemfontein, South Africa Month Year</p> <p style="text-align: center;">Supervisor: Title Initials. Surname Co-supervisor: Title Initials. Surname</p>
--

◆ Step 3: Abbreviations and Glossary

List of Abbreviations	
AI	Artificial Intelligence
CSS	Cascading Style Sheets
HTML	Hyper Text Markup Language
LLM	Large Language Model
NLP	Natural Language Processing

Examining the code:

```
% Abbreviations
\section*{List of Abbreviations}
\addcontentsline{toc}{section}{List of Abbreviations}

\begin{table}[h!]
\centering
\renewcommand{\arraystretch}{1.75}
\begin{tabular}{p{4cm}p{10cm}}
AI & Artificial Intelligence \\
CSS & Cascading Style Sheets \\
HTML & Hyper Text Markup Language \\
LLM & Large Language Model \\
NLP & Natural Language Processing \\
\end{tabular}
\end{table}
\newpage
```

\begin{table}[h!]

1. Starts a floating table environment.
2. [h!] means "place the table here" (as close to this spot in the document as possible).

\centering

3. Aligns the table in the center of the page.

\renewcommand{\arraystretch}{1.75}

4. Increases the row height spacing by 1.75× to make the table easier to read.

\begin{tabular}{p{4cm}p{10cm}}

5. Starts the actual table layout.
6. p{4cm} means the first column is 4 cm wide.
7. p{10cm} means the second column is 10 cm wide.
8. p{} makes sure the text wraps inside the cell.

AI & Artificial Intelligence \\

CSS & Cascading Style Sheets \\

9. Each row uses & to separate columns and \\ to end the row.

\end{tabular}

\end{table}

10. Closes the table and the floating table environment.

This is a specific style for this table, other than the glossary and Abbreviations; other tables use threeparttable, which works the same, just follow the examples provided.

```
% [H] - This forces LaTeX to place the table exactly where it is in the code:
\begin{table}[H]
  \small
  \centering
  \begin{threeparttable}
    \caption{Subsidiary Research Questions and Objectives}
    \begin{tabular}{|p{1.5cm}|p{11cm}|p{2cm}|}
      \hline
      \textbf{SRQ or SRO} & \textbf{Research questions and objectives} & \textbf{Chapter or Section} \\
      \hline
      SRQ 1 & e.g. What pre-processing strategies and model architectures are most effective in improving emotion classification accuracy in multilingual South African social media data? & .... \\
      \hline
      SRO 1.1 & e.g. To evaluate the impact of different text pre-processing techniques and sentiment analysis model architectures on the classification accuracy of emotions in multilingual South African social media posts. & Chapter 3 \\
      \hline
      SRO 1.2 & ... & ... \\
      \hline
    \end{tabular}
    \label{tab:research_questions}
  \end{threeparttable}
\end{table}
```

◆ Step 4: Write Each Section of Your Proposal

Each section already contains:

```
%start of proposal
\section{Introduction} % Approx. 1 page
\textcolor{red}{\textbf{Set the scene for your research by briefly introducing the broader context, indicating the significance and relevance of the topic, and providing a concise overview of what the reader can expect in the rest of the proposal.}}
\textbf{Why} is the problem interesting or important? Identify the existence of a gap in the current knowledge. It should not be more than a page or so.

\begin{itshape}
The aim of the research is to <explore, explain, develop, describe>...
Two questions drive this study:
\begin{enumerate}
  \item what/how/why/when...
  \item how/why/when/what...
\end{enumerate}
This research responds to the following things internationally, nationally and locally...
\\
The research is necessary because it will enable...
\\
The research is unique because although people have done a, b and c, they have not done...
\end{itshape}
```

- A heading (`\section{}`)
- Red instructional text or italic guidance to help you write.
- Replace the **italic instructions** and **red comments** with your actual content e.g.

`\section{Introduction}`

`\textcolor{red}{\textbf{Set the scene for your research...}}`

- Replace that with:

`\section{Introduction}`

This study explores the challenges of multilingual sentiment analysis in South African social media discourse...

Common Formatting in LaTeX

LaTeX uses **commands** to format text. These begin with a backslash \ and are usually wrapped in curly braces {} . Below are the most common ones you'll use in your proposal.

◆ Forcing a Page Break

This command **forces** the content to start on a new page, just like pressing **Ctrl + Enter** in Word.

- **Purpose:** You want a section or table to start on a new page.
-

◆ Bold Text

- **Command:** `\textbf{your text here}`
 - **TeXstudio Shortcut:**
Select the text → Press **Ctrl + B**
-

◆ Italic Text

- **Command:** `\textit{your text here}` OR
`\begin{itshape} \end{itshape}`
 - **TeXstudio Shortcut:**
Select the text → Press **Ctrl + I**
-

◆ Underlined Text (less common in academic LaTeX)

- **Command:** `\underline{your text here}`
-

◆ Highlighted Text (temporary edits only)

- **Command:** `\hl{your text here}`
- **Purpose:** Used in your template to indicate text that should be replaced.
- **Note:** This uses the soul package and is **only for marking drafts**, not for submission.

- ◆ **Line Break (force new line, not a new paragraph)**

- **Command:** \\
- **Example:**

This is the first line.\\

This will appear on the next line.

- ◆ **Paragraph Break**

- Just **leave an empty line** between two paragraphs.
Do **not** use \\ for paragraphs.
-

- ◆ **Bullet Lists**

```
\begin{itemize}
    \item First item
    \item Second item
\end{itemize}
```

- ◆ **Numbered Lists**

```
\begin{enumerate}
    \item First item
    \item Second item
\end{enumerate}
```

- ◆ **Comments (for yourself, not visible in the PDF)**

Purpose: Use comments to leave notes or explanations in the .tex file. These will not appear in the final PDF.

- **Syntax:** Start the line with a % symbol
- **Example:** % This is a comment and will not be printed
- **TeXstudio Shortcut:**

- Ctrl + T to comment a selected line or block
- Ctrl + U to uncomment it

 **Tip:** You can comment out parts of your document temporarily while testing if you encounter bugs.

◆ **TODO Notes (visible in source code only)**

If you'd like to track tasks inside your document, you can create visible **TODO notes** in your `.tex` file using comments or dedicated commands:

 **Option 1: Simple %TODO: comments**

`% TODO: Add research aim here`

These help you track what still needs to be written.

 **Option 2: Use the todonotes package (visible in the margin)**

The `\usepackage{todonotes}` is already included in the preamble.

In your document, use:

`\todo{Write this section}`

- This creates a visible margin note saying “Write this section.”

 Tip: You can use it like a checklist:

`\todo[inline]{Fix citation, replace figure, check table numbers}`

◆ **Step 5: How Referencing Works with `\label`, `\ref`, and `\autoref`**

LaTeX can automatically **cross-reference** sections, tables, and figures using **labels**. Here's how:

1. Give it a label

Right after a section/figure/table caption, add:

`\label{fig:onion}`

- The fig: prefix is just a naming convention (you could also use tab: or sec:).
- This label **bookmarks** the position in the document.

2. Refer to it later using `\ref{}`

Anywhere else in your document, you can say:

As shown in Figure `\autoref{fig:onion}`, the Research Onion...

- Output: *As shown in Figure 2.1, the Research Onion...*
-

Tip: How to Label Each Type

Element	Example Label	Where to Place the <code>\label{}</code>
Section	<code>\label{sec:method}</code>	Right after <code>\section{}</code>
Figure	<code>\label{fig:flow}</code>	Inside the figure block, after <code>\caption{}</code>
Table	<code>\label{tab:budget}</code>	Inside the table block, after <code>\caption{}</code>

◆ Step 6: Add References

Open `library.bib` in TeXstudio.

Paste your BibTeX entries from Google Scholar or Zotero.

```
@article{smith2022ai,
    title={The Role of AI in Education},
    author={Smith, Jane},
    journal={AI in Learning},
    year={2022}
}
```

Use in your text with: `\cite{smith2022ai}`. **This is explained very clearly in the document in the How to Use Citations section.**

◆ Step 7: Insert Images

To insert a figure:

1. Save your image inside the images/ folder.
2. Use this code:

```
\begin{figure}[H]
    \centering
    \includegraphics[width=0.8\textwidth]{images/myfigure.jpg}
    \caption{Caption of the figure.}
    \label{fig:myfigure}
\end{figure}
```

 Tip: Use .png or .jpg for draft images. Use .eps for high-quality print figures.

◆ Step 8: Compile Regularly

Use **F5** to compile every time you make changes. This helps catch errors early and lets you preview your PDF continuously.

◆ Step 9: Finalise and Export

Once complete:

- Remove all highlighted instructional content.
 - Double-check that all references compile properly.
-

Recommended YouTube Tutorial

For a beginner-friendly video:

[LaTeX for Beginners – Full Tutorial](#)

Covers TeXstudio, compiling, inserting figures, references, and writing structure.

Need Help? Use ChatGPT as a Support Resource

In addition to this guide, you can use **ChatGPT** to get real-time help while working on your proposal.

Tips for Using ChatGPT Effectively:

- Be specific with your question (e.g. “I’m getting a ‘missing }’ error after a `\section{}`”)
- Paste your LaTeX code snippet into ChatGPT for quick debugging